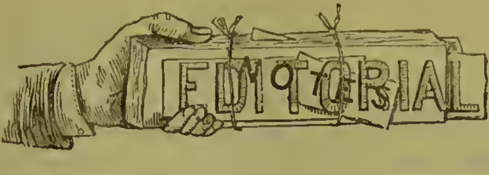


PHARMACEUTICAL FESTIVITIES.

NEXT week is the appointed time for the gathering of the pharmaceutical family in the metropolis. There is no great question to call them together this year, but doubtless we shall have a handsome representation from all the corners of Great Britain. A sociable disposition has grown up amongst us of late years which has tended to increase the gaiety of the pharmaceutical week considerably, and has not apparently injured the scientific side of our character. The dinner at the Crystal Palace, which was started last year, was universally agreed to be an institution worth nursing, and we look for a repetition of the pleasant *réunion* on Tuesday next with agreeable anticipations. A large number is expected, and those who were not present last year may well indulge themselves on this occasion. Those who did attend before will not, we think, miss the pleasure if they can help it. This (the 15th) is the closing-up day, but we have reason to believe that if any dilatory gentlemen have not secured their tickets, the stewards will try to accommodate them if they will make *prompt* application. It will, however, be no use to leave the purchase until the day. On Wednesday morning the annual meeting will occur, which, if not a festivity in the strict sense of the word, partakes somewhat of the character. In the evening the Society will hold its grand annual *soirée* at the South Kensington Museum, to which it invites all chemists and druggists.

SHOP HOURS REGULATION BILL.

A BILL very seriously affecting chemists and druggists, as well as all other tradesmen, has been quietly introduced into the House of Commons by Sir John Lubbock, Mr. T. Hughes, Mr. Morley, and Mr. Mundella. It appears under the title we have printed above, and its object is, with certain modifications, to extend the provisions of the Workshops Act to all kinds of shops, excepting only public-houses, bake-houses, and shops where articles of food for consumption on the premises are sold. If passed, it would require that all shops, except those specially excepted, should be closed one half-day in every week, from 2 p.m.; it would make it penal to employ any child, young person (that is anyone under twenty-one years of age), or female, after nine o'clock in the evening; and it would also be penal to employ such persons at all on Good Friday or Christmas Day.

It is only necessary to mention this bill in our columns to convince anyone, either in the trade or out of it, how impossible it would be to carry out such a law, as far as chemists are concerned. We say nothing of other businesses, though we doubt whether sufficient tyranny exists in retail shops as would justify such interference on the part of the legislature as this. But, at any rate, we think the promoters of the bill will only need to have this represented to them (which we shall do), to induce them to include among the exemptions all shops owned by registered chemists and druggists.

SEIDLITZ POWDERS.

A CURIOUSLY interesting investigation in regard to the seidlitz powders sold in America, was made last year by Mr. C. W. Grassly, of Chicago, and reported at the meeting of the American Pharmaceutical Association. It should be mentioned that seidlitz powders are officinal in the United States Pharmacopœia, and that each should contain, in the alkaline mixture 120 grains of Rochelle salt, with forty grains of bicarbonate of soda, and in the other paper thirty-five grains of tartaric acid. Mr. Grassly collected one hundred and sixty-five samples from various parts of the Union and Canada, and found but two in the whole number which were of correct Pharmacopœia weight. These two were both found in Chicago. The mixture powder varied from eighty-two grains to 250. The acid from nine grains to sixty-three. The habit of measuring the powders was credited with these extraordinary discrepancies, and "this villainous practice," said the reporter "is almost universal." The amount of pressure exercised in its employment was stated to allow considerable deviations. In discussing the report several prominent members of the association expressed a righteous horror at the custom of measuring seidlitz powders. Professor Diehl, for example, remarking that "every druggist that is conscientious will weigh his powders."

VICE TRIUMPHANT.

THE Universal Drug Supply Company (Limited) have got their premises at 357, Oxford-street, almost ready for opening. They have made the most of a narrow frontage, and will soon present to public view a novel and effective chemist's shop. The front imitates blocks of granite, and on each side of a bold doorway is a tall narrow ecclesiastical-looking window, just wide enough for a show-jar. Two handsome lamps are suspended from the front, and bear the title of the Association, but over the door is painted "Medical Hall. J. J. Rees, Chemist." No doubt in the opinion of the gallant and learned and honourable gentlemen who form this interesting company, the appointment of Mr. Rees has cleverly bridged over the awkward Pharmacy Act. It is a subterfuge very similar to that which the co-operative stores have practised. Now we have not much doubt about what a just and clear-sighted judge would say of the latter if the point came before him. But we have none whatever as to how he would decide in regard to Dr. Pennefather's dangerous venture. The doctor, the general, the lawyers, and the rest, have distinctly registered themselves as, and assumed the titles of "apothecaries, pharmaceutists, and chemists and druggists." If they employ all the registered chemists in Great Britain, it will not affect the case, as far as they are concerned. Meanwhile, it might happen that certain persons, "whose occupation would be gone if they did not, under the semblance of criticism, carp and cavil at all that is," will ask what is the Pharmaceutical Council doing all this time? Ungenerous cavillers! The Council cannot do everything, and it has lately been preparing a report, in which occurs the assurance that it "has every desire to put a stop to the illegal sale and dispensing of poisons, as well as *the false assumption of titles* protected by the Act." "Fine words butter no parsnips," says the old saw.

MR. A. F. HASELDEN.

MR. HASELDEN has announced his intention of withdrawing from the Pharmaceutical Council, both as member and as president. On this occasion we may therefore be permitted to express an appreciation of his long services to pharmacy, which at another time would be personal and out of place. Mr. Haselden was called to the Council in June 1859, to fill the seat left vacant by the death of Jacob Bell. In May of the same year his name had appeared at the top of the list of rejected candidates for the honour. Ever since he has been regularly elected and placed high on the poll, and his thorough, painstaking, and conscientious service, has well justified the confidence placed in him. He was elected Vice-president in 1869; again in 1870; and in April 1871, on the resignation of Mr. Sandford, was made President, a selection confirmed by the new Council in June of that year, and again in 1872. With a kind and courteous bearing to everyone, Mr. Haselden has combined an attention to business most necessary and valuable in a president; and his high scientific attainments have enabled him most satisfactorily to fill the chair at the evening pharmaceutical meetings. If something like over-caution has seemed to us to characterize his casting votes, we are quite aware that his conservative tendencies have been satisfactory to another party, and we cannot expect to see a president yet with whom we can always agree. We believe Mr. Haselden will continue his services on the Board of Examiners, and we are quite sure that when he makes his bow on Wednesday next, a ringing cheer will testify to the popularity he has won.

WOMAN.

THERE seems no hope of escape from the long-dreaded discussion on woman, which threatens us for the next annual meeting of the Pharmaceutical Society. The subject is a fertile one, and if experience is worth anything, we may predict such an abundance of eloquence as to outshine even the well-remembered poisons dispute. The question at issue is as simple as it can possibly be, and ought not to require ten minutes' discussion. It is merely whether females, having satisfied all the requirements of the law, shall be admitted to associateship or membership in the Society. It would hardly be supposed that the ingenuity of fear would be equal to the task of finding danger lurking in such a simple request; but the subject has been deemed serious enough to agitate the whole Pharmaceutical Society from end to end of the British Isles. We have been warned that once admitted a member, woman might become a councillor, might become a president, might, we suppose, introduce plain and fancy needlework, and the use of the globes into the Preliminary Examination, and found courses of lectures on wet-nursing. We cannot blame Mr. Hampson for bringing his motion forward, for its terms agree exactly with the views we have several time expressed, and it ought to be carried. But we do hope speakers on both sides will confine themselves to the question, and not go wandering over the whole subject of woman's rights, and woman's duties, with occasional essays on her superiority, inferiority, or equality with man considered from physiological, intellectual, historical, or pharmaceutical points of view.

A PLEASANT RECOGNITION.

SINCE we made our final note on the Chicago College Fund, there has occurred one little incident which it will gratify subscribers to that fund to read. The receipt of the British gift of sympathy was very cordially acknowledged by the College, but among the leading pharmacists of Chicago, a few were desirous of recording their gratitude in a more permanent manner. They recognised that Professor Attfield had organized the fund, and personally superintended every detail in connection with it, and therefore they asked him as the representative of the donors, to sit for his portrait, that they might present it to the Chicago College. After a little natural coyness, Dr. Attfield acceded, and a handsome portrait in oils by Mr. E. N. Downard has lately been sent across the ocean, and by this time probably the Professor is duly hung. The following inscription is engraved on a plate in the frame:—

"Professor Attfield, F.C.S., Professor of Practical Chemistry to the Pharmaceutical Society. A portrait painted for a few members of the Chicago College of Pharmacy, and presented by them to the College, in recognition of the generosity of British pharmacists, and the special efforts of Professor Attfield in so kindly aiding to raise our College from its ashes after the great fire of 1871.

"E. N. DOWNARD."

We believe that a replica of the portrait will hang in the Secretary's office, 17, Bloomsbury-square, for the next week or two, where subscribers to the fund or other friends can view it.

We much regret to report that Mr. Joseph Ince has resigned his position on the Board of Examiners on account of ill-health.

The following is the motion of which Mr. Hampson has given notice for the annual meeting of members of the Pharmaceutical Society:—"That inasmuch as the Examiners of the Pharmaceutical Society are empowered by law to test the qualifications of persons—*female as well as male*—before the State permits them to be registered as persons fitted to "keep open shop" to practise pharmacy, and as all persons having passed the Major and Minor examinations are eligible for admission into the Society, as members and associates, that they may exercise control and direction over the working of the Pharmaceutical Society, and have the benefit of its associative influence and protection, this meeting is of opinion that it is contrary to the plain intention of the statutes to refuse admission to female persons, who having conformed to the legal tests of the Examiners and the regulations of the Society, may desire to become connected with the Pharmaceutical Society in the capacity of apprentices or students, or associates or members."

OBITUARY.

On the 25th February, 1873, Mr. Thomas Hall, pharmaceutical chemist, Newcastle-on-Tyne.

On the 5th of March, 1873, Mr. Thomas Sherlock, chemist and druggist, of St. Helen's.

On the 28th of March, 1873, Mr. Henry Stephen Duggan, of Hereford, in his 57th year.

On the 7th April, 1873, Mr. John Hopwood, chemist and druggist, of Burnley.

On the 15th of April, 1873, Mr. John Owles, pharmaceutical chemist and Justice of the Peace, of Yarmouth, aged 67.

On the 15th April. 1873, Mr. John Hubert Fryer, chemist and druggist, of Tavistock-street, Plymouth.

On the 17th of April, 1873, Mr. John Folls, pharmaceutical chemist, of Clapham.

On the 17th of April, 1873, Mr. Nicholas Bickford, chemist and druggist, of Exmouth, Devon.

On the 23rd of April, 1873, Mr. William Judd, pharmaceutical chemist. of Bath-street, Leamington.

On the 1st May, 1873, Mr. William Taylor, chemist and druggist, 120, Oldham-road, Manchester.

On the 2nd of May, 1873, Mr. John Handcock, chemist and druggist, of Ossett, near Wakefield.

On the 5th May, 1873, Mr. James Bell, chemist and druggist, of Broadgate, Grasmere, Westmoreland.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

TOXICOLOGICAL EXERCISE.

INSTEAD of selecting one of the preparations of the Pharmacopœia for our next analysis, we intend to give our contributors the benefit of variety, by distributing samples of an organic powder, supposed to be in a poisonous condition. The powder will consist of a mixture of flour and linseed meal, and may contain a small quantity of a well-known metallic poison. So that the problem to be solved is the detection of the poison in the presence of organic matter.

Students who wish to compete should send us their names and addresses before the 20th instant. On the 26th we shall forward the samples.

Students' papers will be received up to the 15th of the following month.

ANSWERS.

The subject of our last analytical exercise was the *Ferri Phosphas* of the Pharmacopœia. It contained a small quantity of arsenicum, also traces of magnesium and sodium, and of the sulphuric radical. The occurrence of arsenicum as an impurity in *Ferri Phosphas* is not unusual; on this account, Reinsch's test is given in the Pharmacopœia as one of the tests of the purity of this compound. Notwithstanding this circumstance, we find that out of the eighteen students whose papers we have examined, only seven detected this impurity. Owing to the extremely poisonous nature of arsenical compounds it is very important that delicate and accurate methods for the detection of arsenicum should be known, for its compounds are not only used for criminal purposes, but, owing to their many uses, and also to the wide distribution of the metal arsenical poisoning through accident is not uncommon. For these reasons great attention has been devoted to the analytical reactions of arsenicum, and the result has been that we possess several delicate tests for its detection. Of these Marsh's and Reinsch's are the most important; indeed the latter, in conjunction with the electric spark method of spectrum analysis, can only be objected to on the grounds of extreme delicacy. We do not, however, expect our correspondents to employ methods which involve the use of expensive apparatus. Reinsch's test, without its modern improvements, is very trustworthy, and easily applied. As we shall probably have occasion to refer to this test in connection with some of our forthcoming exercises, we may state that the mere production of a dark deposit on the copper must not be regarded as a proof of the presence of arsenicum. If such a deposit is not obtained, oxidizing bodies being absent, the inference is that arsenicum is absent. If, however, it is obtained, it is necessary in the first place to make sure that it is not due either to the acid or the copper employed. This is easily done by boiling a piece of the copper in some of the acid diluted with three or four times its volume of water. If they are sufficiently pure the copper will not be darkened in colour. In the next place, as several other metals, notably antimony, give deposits similar to that caused by arsenicum, it is very necessary to examine the deposit carefully before asserting that it is due to the latter metal. For this purpose as much of the stained copper as can be obtained is carefully dried, and placed in a narrow test tube, or a reduction tube, and then heated. If arsenicum be present arsenious anhydride will be deposited on the colder parts of the tube, and when examined by a lens may be recognised by its crystalline character. If, on the other hand, the deposit is due to antimony, the sublimate will be amorphous. Having examined the sublimate optically it should next be boiled with a little water. If it is arsenical it will dissolve slowly, and the solution will give a yellow precipitate, with silver ammonio-nitrate. If the sublimate is antimonial it will not dissolve. When the quantity of arsenicum present is sufficient to give a comparatively thick deposit, the film will peel off the copper when it is boiled in a solution of ammonia. It must not be supposed that this film is pure arsenicum: it is a compound of arsenicum and copper. When the stained copper is heated only a small portion of the arsenicum is oxidized; the greater part remains in combination with the copper. We strongly recommend students not to trust to reading alone on a subject of this sort; the knowledge gained by experiment is of far greater value. Owing to the importance of Reinsch's test it is desirable that those who wish to avail themselves of it should become practically acquainted with the facts to which we have referred. This is best done by experimenting on mixtures of known constitution. We reserve our remarks about Marsh's test for a future occasion.

PRIZES.

The First Prize for the best analysis of the salt has been awarded to

CHARLES J. MILLS (C.J.M.), 50, Radcliff Hill, Bristol.

The Second Prize has been awarded to

J. C. THRESH (England), 115, King-street, Dukinfield.

Marks Awarded for Analysis.

C. J. M. (*1st prize*)	90
England (*2nd prize*)	87
A Beginner	85
Spero	85
Gradatim Excelsior	84
F. W. Fletcher	75
S. P.	73
C. J. B.	70
F. L.	68
T. Williams	67
B.	65
T. B.	63
Humilitas	63
F B.	62
F. N. H.	58
E. A. Applebe	55
C. F. P.	50
E. S. Balchin	5

TO CORRESPONDENTS.

⁂ All Communications should include the names and addresses of the writers; those that reach us after the fifteenth day of the month succeeding that in which the questions appear will be disregarded.

Prizes.—The students to whom prizes are awarded are requested to write at once to the publisher naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

England.—Thanks for your suggestion. The plan was well considered when we devised our present system.

A Beginner.—A very fair beginning. The cloudiness produced by adding barium nitrate to the aqueous solution might have been due to a phosphate as well as a sulphate. If you had acidulated the solution with nitric acid this source of error would have been eliminated, as barium phosphate is soluble in acids.

F. W. Fletcher.—We cannot account for your results with Reinsch's test; possibly you employed a solution to which nitric acid had been added.

C. J. B.—The statement that no portion of the substance was soluble in water, and that a nitrate was present, are contradictory, for all the nitrates are soluble in water.

B.—We have no fault to find with your work except that of want of care. The small portion soluble in water, for example, should not have escaped notice.

E A Applebe.—Valuable information may often be obtained by testing a substance, and very often this information may be gained with undoubted safety. But considering that you are supposed to commence the analysis in perfect ignorance of the nature of the substance under examination, we think it wiser to trust to more purely chemical tests in making your preliminary observations. We are at a loss to know what it was that did not blacken lead paper or give a precipitate with lime water, as the powder did not effervesce with acids.

C. F. P.—The precipitate which you attributed to cadmium was probably the sulphur liberated from the hydrogen monosulphide. The examination for the acids appears to have given you some trouble. An acid solution does not interfere with the detection of phosphoric acid, if the reagent used is ammonium molybdate. To procure an aqueous solution containing the acidulous radical the powder should have been boiled for some time in a concentrated solution of sodium carbonate. Roscoe and Jones's "Junior Course of Practical Chemistry" will probably supply your wants.

E. S. Balchin.—The cause of your error in the detection of the acidulous radical was probably an excess of hydrochloric acid, or perhaps the employment of too large a quantity of the solution to be tested. The yellow precipitate is soluble in an excess of hydrochloric acid; and if the molybdic radical is not in excess, the precipitate will not appear, even though the quantity of hydrochloric acid present is small.

NOMENCLATURE.

THERE is no form of cramming less objectionable or more useful than that which consists in conveying instruction by the association of ideas connected with the derivation and application of names. We call it cramming because, as far as we can gather much meaning from the denunciations of the system that have been so liberally poured forth, this seems to be the essential characteristic of the crime, namely, the provision of an aid to memory by some sort of association. Teachers and writers of text-books on chemistry, pharmacy, and the collateral sciences, have, in our opinion, far too much neglected this branch of instruction, which should both interest and instruct the student at the very outset of his curriculum. Let the philosopher who reads these lines, and whom we are not pretending to instruct, take down from his shelves, one after another, all the books he has on chemistry, for example; and let him notice how many of them devote a single line to the origin of the word which designates the science on which they treat. Not five per cent. of them even allude to the derivation of the name. As a matter of fact it is not known with any approach to certainty, but for all that an intelligent student's brain would be set working in the right direction, if he were merely informed of the conjectures that have been made. Every one knows that in English we have the words *chemistry* and *chymistry*. Scientific men almost without exception, adopt the first method; the *Times* newspaper, which ought to be an authority, invariably follows the second form. If the derivation of the word could be certainly ascertained there would be no difficulty in knowing how to spell it, but at any rate the balance of probability is against the *Times*. One of the most far-fetched, but by no means an improbable supposition, is that the word comes from *Chemia*, a name by which Egypt was once known. There is abundant evidence that, amid the many sciences known to the ancient Egyptians, chemistry was one of the most assiduously studied, and by its aid the priests and wise men of that land were able to exercise immense influence over the people generally. Moses, who was learned in all the wisdom of the Egyptians, would doubtless have made very short work of the pharmaceutical examinations. The name has also been derived from a Chaldaic root which conveys the idea of obscurity, and in either of these cases the *e* and not the *y* would be required. The most generally acknowledged origin of the word, however, is the Greek χημεια (chemeia), which relates to the art of making gold, the adaptation of which is sufficiently obvious. If that be the origin of the word, the title chemist is strictly as proper now-a-days to a jeweller as to a dealer in drugs. The *y* school claim that the word comes from χυω (chyo) to pour or melt, through *its* derivative χυμος (chymos), a juice or liquid. As we have said, scientific men unanimously reject this origin, and it must be regarded as a piece of pedantic obstinacy on the part of the *Times* to cling to the unphonetic method of spelling chemistry with a *y*.

Having settled the *chemist*, we naturally proceed to the *druggist*—and this, as we need hardly say, is almost exactly synonymous with *pharmacist*. Druggist is derived from drug; pharmacist, or pharmaceutist, from φαρμακον (pharmakon), which also means a drug or a medicine. But here we come to a singular coincidence, and one which we are not aware has been previously noticed. A Greek verb derived from *pharmakon* is *pharmakeuo*, which never had any other meaning than to purge, or to use purgatives. This seems to indicate that *pharmakon* did not, at any rate originally, possess such a broad signification as our word *medicine*, but might be more correctly translated as "a purgative." The singular part of the matter is, that our word "drug" had originally exactly the same signification. It has the same origin as the preposition "through;" German, "durch." The remaining history of the word is sufficiently obvious.

We may here remark that the origin of the word justifies the horrible pronunciation which some pedantic people give to the word "pharmaceutical," giving to the middle *c* the *k* sound. Such affectation is pure pedantry. It is nothing but right that words that make their home in our language should conform to the laws of our language, just as Frenchmen or Germans who take up their residence here must submit to British laws. Besides, even those people who speak of the Pharma*k*eutical Society have not the courage to carry out their principles, and speak of pharma*k*y or pharma*k*ist, which would be quite as reasonable.

We are getting on very slowly, but before passing we may just refer to the derivation of the titles, Doctor, Physician, Surgeon, and Apothecary. A doctor is, of course, a "teacher," and is utterly misapplied when it refers, as it generally does, to a mere medical practitioner. Physician means "naturalist"—nothing more nor less. Surgeon is the French *chirurgien*, Anglicised. The French got it from the Latin *chirurgus*, and the Latin from the Greek, where it appears as χειρουργος (cheirourgos), where it meant a worker by the hand, a manipulator. This is an interesting instance of how a special meaning of a word gets crystallized, as it were, and also how a few stages through different languages, easily traced, gives an altogether different sound to many words. The title "apothecary" has, perhaps, originally less reference to the medical art than either of the other distinctive appellations to which we have referred, meaningless though they seem to be. An apothecary is just simply a shopkeeper. The Greek word αϖοθηκη, spelt exactly the same, by the way, as the German *apotheke*, meant a storehouse. The same word, with a similar meaning, is still retained in the French *boutique*, and the Spanish *boteca*. If it had not been for the curious deviation from its original signification which this word has undergone in our language, the English apothecary and the German *apotheker* would correspond exactly with the French *boutiquier*. It may not be generally known that previous to the foundation of the Apothecaries' Company, in 1616, the dealing in drugs had been in the hands of the grocers. These had formerly been termed pepperers, afterwards spicerers (Fr. *épiciers*), and ultimately grossiers, apparently because they were buyers *en gros* of all sorts of wares.

It would be curious and most instructive to take any one of these titles and trace the gradual steps and processes which it has gone through in acquiring its new meaning, or in losing that which it first had. Whole volumes of history are often concentrated in one little word. The chemist, pharmacien, apothecary, or pharmacist, by whichever title he is designated, has at least this much to be proud of—that of all tradesmen his title alone is derived from the Greek. Coming over with the Normans is nothing to that. The modern chemist may unfortunately have found that *chemeia*, the art of making gold, is but poorly fulfilled in his case, but he is no worse off than more exalted personages. *Earl* at one time was *Jarl*, and meant a strong man; now it means an idle man. Merchants look proudly down on shopkeepers. They owe their title to Mercury, the god of traders, travellers, and thieves.

So much for the *dramatis personæ*; in a future paper we shall proceed to give derivations of names of things; and if any of our accomplished readers believe that we have undertaken a task which has some elements of usefulness in it, and will help us with ideas, suggestions, or even guesses at truth, we shall much esteem their assistance.

AT THE EXHIBITION.

II.

Surgical Instruments.

"MAN," we are told by one of the most eloquent of modern writers, "is a tool-using animal. Nowhere do you find him without tools; without tools he is nothing; with tools he is all." And if we may feel inclined to take some exception to Mr. Carlyle's dictum, as regards mankind in general, we must unquestionably admit its truth when applied to that section of society in particular of which Mr. Bob Sawyer was so distinguished a member. That perfection in the design and excellence in the manufacture of surgical instruments is a matter of the highest possible importance, no person out of Bedlam would deny, and we ourselves would, moreover, strongly advocate the adoption of all available means which either by bringing into prominence some hitherto obscure design, or by exciting honourable rivalry amongst manufacturers, would tend to the prevention or alleviation of the pains and ills to which suffering humanity is heir. But whilst admitting this, we must confess ourselves exceedingly sceptical as to the amount of good which is likely to be effected by making a public show of a heterogeneous collection of medical apparatus. An International Exhibition, though perhaps one of the most comprehensive of incomprehensible things, has its limit, and that limit is, in our opinion, reached when neither instruction nor amusement is afforded to the public, nor any real service done to science. For our own part we fail to see that, under any circumstances, it is a desirable thing to spread out to indiscriminate view, the contents of the surgeon's case. Is it likely that Farmer Brown and family, for instance, will be either morally or mentally benefited by a more or less careful investigation of various obstetric instruments, or that Jones and Robinson will be able to appreciate the subtle distinctions between rival sets of lithotrity apparatus. On the other hand, will the country practitioner or town surgeon need to go to South Kensington to select any instruments he may require, or to be made acquainted with any novel designs. He knows already perfectly well what makers' instruments suit him best, and his journals keep him posted up in the latest inventions. On the whole, it must be a very shadowy benefit which anyone, professional or layman, can derive from quietly gazing at the closely locked cases of instruments which he is "particularly requested not to touch," and the description of which must for decency's sake be meagre.

Although instruments appertaining to the higher branches of the chirurgical art but occasionally pass through the hands of the pharmacist, and are therefore of only limited interest to the majority of our readers, we have taken some pains in examining the collection at the Exhibition to find out specimens which either from novelty of design or special excellence of manufacture call for notice in these columns, and upon these we shall hope to make a few serviceable remarks. The first case we noticed, being near the entrance, was that of Messrs. Lynch and Co., containing a large assortment of bougies and catheters. We have already predicted public favour for their "Cuirass" a kind of double chest protector, as an Irish friend might explain,—made of fine lamb's wool, so arranged as to shelter both chest and back, from the biting blasts of Canon Kingsley's "merry east wind." Then there is their improved spray diffuser, for use with carbolic acid or perfumes, which has probably already found its way into many pharmacies. Next to this is a stand of Messrs. Grossmith with artificial limbs, and such a collection of glass eyes as would scare many a Eugeno Aram. An instrument, too complicated to allow of description here, but which will doubtless attract the attention of oculists, is a photo-perimeter for measuring the field of vision or the sensibility of the peripheral portions of the retina, exhibited by Mr. P. Robson, Newcastle-on-Tyne. For those who are often sighing for the good old times, and bringing railing accusations against the innovations of modern science, an ancient volume entitled "A General System of Surgery, by Lawrence Hester, London, 1743," lent by Dr. White Cooper, will be of peculiar interest; and especially so the prominent woodcut, of a surgical operation which must at once call up suggestions of the most pleasing nature. The patient has resignedly laid himself back in a low chair, and around him stand a cheerful group of operators in knee-breeches and wigs. Two are stationed at his head, and two at the extremity of one leg—the offending member—and to judge from the state of tension to which the patient's body is subjected, both pairs are evidently bent upon relieving the gentleman of his leg, without the aid of the energetic individual in the centre, who is vigorously endeavouring to bring about that result by means of a saw, which he must certainly have forgotten to sharpen, the blood meanwhile peacefully trickling into a large tub which is placed beneath. The Glasgow Apothecaries' Company send specimens of carbolized catgut ligatures and emplast. acid. carbolic, both favourites of Professor Lister. As we come to Messrs. Rein and Co.'s stand, we call to mind that unhappy old lady in Hood's "Tale of a Trumpet," and devoutly pray that no impenetrably deaf old scandal-mongers may find their way to 108, Strand, where many sufferers from imperfect or lost hearing will find relief. An invention that must be hailed with delight in many a sick room, and is simply indispensable in the hospital ward, is Jakin's invalid lift, for removing paralytic or bedridden persons from one bed or room to another. It is designed to give every comfort and convenience to the patient, whilst its construction is so simple that it can be easily managed by an ordinary nurse. It is, moreover, very portable, and can be set up or taken to pieces in a few minutes. We are glad to learn that it has been adopted in University College Hospital, and the National Hospital for the paralytic in Queen's-square.

Messrs. Newbery and Sons exhibit some well-made elastic stockings, belts, etc., various trusses for inguinal hernia, and their well known "Palladium" chest and lung protectors. They also contribute several volumes of Dr. James's "Medical Dictionary," date 1743; and a photographic copy of a page in the *British Chronicle*, for August, 1759, containing their advertisement of Dr. James's powder.

The employment of water in various forms, and for various cases, has of late occupied the attention of several of our leading surgeons; and it is, we believe, to Mr. Wilson, of St. Mary's Hospital, that the chief merit is due for having made extensive experiments in the application of water, either in the treatment of superficial wounds, or in reducing inflammation. Particular attention will therefore be paid to several forms of irrigating apparatus, devised by Mr. Henry Greenaway, of Plymouth, and manufactured by Messrs. Maw, Son, and Thompson. They admit of the application of water either by conduction from strings or by jets; and are so constructed as to obviate the inconvenience which would ensue from any water finding its way into the patient's bed. They are already in use in St. Mary's Hospital, and will, undoubtedly, obtain general approbation.

Our readers are so accustomed to advertised improvements in inhalers—each one claiming some special advantage—that they may have come to look upon "the latest improvement" with the same calm serenity with which one regards the Tichborne case. We would, nevertheless, call their attention to a double-current ether inhaler, designed by Mr. J. T. Clover, F.R.C.S., which seems to possess the following substantial advantages:—1. Power of sustaining the required proportion of air and ether for the patient, and thus avoiding the pungency of too strong a dose. 2. Diminution of smell of ether in operating room. 3. Economy of ether. We remarked last month on Mr. Gillingham's stand of artificial leather legs and arms; we observe that he has now added to his exhibits an "Universal Couch," which is stated to make 40 positions, 500 graduations, can be used for 50 purposes, and is capable of 50,000 changes; and if that won't suit the most restless of fidgets, we should consider him a very fit subject upon which to try the edge of a few sharp instruments close by. In Mr. Thomas Paton Hawksley's case we noticed some good portable post-mortem instruments; and amongst Evans and Wormull's collection, a handsome case of cupping instruments; also Dr. Wilde's patent electrical bullet probe and forceps; and some portable battle-field pouches and splints, designed by Surgeon A. Moffit, of the Army Medical Department. Mr. Jabez Hogg contributes a set of lithotomy apparatus, employed by the native surgeons of Bengal. With an instrument like a superannuated razor a cut is made in the median line and into the bladder large enough to admit the introduction of a rough-looking iron hook; and with this the stone is adroitly hooked out.

From University College comes a collection of old instruments which belonged to the late Professor Liston, besides some ancient tourniquets and amputating saws. Dr. Hall Davis as sent the late Professor Davis's obstetric instruments; and Messrs. Matthews' case contains Sir Wm. Fergusson's collection of lithotrity apparatus, and his original model of a rack and pinion lithotrite, carved in oak, by himself. Messrs. Masters and Son, the celebrated artificial limb makers, are of course well represented. A very fine case of instruments is that of Messrs. Arnold and Co., the patentees of the graduated chloroform bottle. Amongst other things we noticed Dr. Greenhalgh's gynæcological bag, and Sir B. Brodie's catheters. Undoubtedly the most handsome show of instruments in the Exhibition is comprised in the three stands which occupy the centre of the lower room, and which bear the names of Louis Blaise, Krohne and Sesemann, and Mayer and Weltzer; but these are more outside the pale of pharmacy, and would require more space than we can at present spare. Several other cases, such as that of Messrs. Salmon and Ody, were referred to last month; and though we still think that any surgeon or chemist could gain more information by looking through and handling the stock of almost any good surgical instrument maker, we do not think he ought to visit the Exhibition without going carefully through this department.

SIMPLE TESTS.

In order to show the relation of chemical science to other sciences, Dr. Robert Kane, commences his valuable treatise on that subject by supposing the universe to consist of quicksilver only. Most undoubtedly there is much wisdom in this commencement; the power thereby given to the mind to conceive the value of the natural laws which make up chemical science is very great, thence the argument in favour of studying those laws is very convincing. When mathematicians desire to ascertain the precise bearing of any one quantity, in a given question, upon the other quantities involved therein, they temporarily suppose that quantity to become either very great or very small, in proportion to the other quantities under consideration, and investigate the theorem or problem from that stand-point; so with Dr. Kane's example in respect to chemistry, which most strikingly shows what an inactive universe it would be without the forces, the mutual actions and reactions of which constitute the subject of which chemistry treats. The chemical mind turns upon its changes, the mathematical mind upon the relations of number and magnitude, the mind of an everyday person upon everyday things, such as daily food and sustenance. It is to these everyday things that attention will be drawn, and to the aid that chemistry, in its slightest but most definite application, affords in ascertaining the condition of substances that surround us, especially in regard to their purity and the fitness they have for their special purposes.

The very word *test* is mentally accompanied by thoughts of prudence, exactness, examination, and truth. Reliance is placed on those things, whether they be rare or whether they be common, that successfully and fairly pass through the ordeal of comparison, proof, and rigid test. The definition of *test* which is adopted here is that given by Dr. Johnson, namely, "that with which anything is compared, in order to prove its genuineness." The extension of meaning of this word, which implies investigation or original research in chemistry, would lead to the entire subject of analysis; this is not contemplated; it is simply sought to show how to prove the existence of that which is already known or suspected. Every science has its tests, and the more rigid the system of testing, the higher the science owning that system in the scale of knowledge. The astronomer has an especial instrument, the collimator, to test his instrumental observations; he also uses for this purpose, an "artificial horizon," in the shape of a basin of mercury, and an "artificial star," in the shape of a globule of the same substance. The surveyor tests his work by means of check levels, and check measurements. The mathematician tests his general results, in the shape of formulæ or the relations of magnitude, by particular examples carefully selected so as to be typical of all possible applications of the formula, theorem, or problem in question. The microscopist has special tests for each of the qualities in turn that his instrument should possess; the navicula angulata for definition, a globule of mercury for achromatism, and divided plates for angular aperture. The electrician has his mist jar for capacity, his standard battery for electromotive force, and his test wire for resistance. The mechanician has divided rules to test his measures, and accurately adjusted masses of metal to test his weights. Of the tests in chemical science, especially those capable of ready application, more will now be said.

The chief faculty necessary for testing is that of correct and minute observation, coupled with an exact knowledge of what to look for. Take water as an example; if the course of the stream furnishing the water be known, the chemical history of that water is to some extent realizable. If it arise in a mineral district, iron, copper, or other metal prevalent in the district, may be suspected and tested for. If it traverse an agricultural part of the country, organic matters and earthy phosphates are likely to be present. If a graveyard or other source of decomposing animal matter be near the bed of the stream, the water thence derived often contains free nitric acid as well as earthy nitrates.

Ordinary observation, without the use of special instruments, will do a great deal in testing, especially if the light used be definite in direction and considerable in amount, such as a ray of sunlight. Bright and sparkling water, for instance, may be suspected of containing free carbonic or even nitric acid. Rain water is somewhat dull and murky. Earthy impurities, and organic contamination can often be detected by the naked eye. Correct observation requires practice to perfect it, and qualities that would be passed by at first, are easily recognized by an educated eye. Not only sight, but also smell, taste, and even feeling and hearing, must be pressed into the service of him who desires to test well. Gaseous and aromatic substances reveal themselves to the smell; acids and alkalis, bitters and sweets, to the taste; greasy, sticky, wet, dry, polished, gritty, flat, and corrugated substances reveal themselves to the touch; and the evolution of gas is frequently as much a matter of hearing as of seeing. The smell easily distinguishes between carbonic acid gas and sulphide of hydrogen, the taste between a solution of sulphate of quinine and eau sucré, the feeling between oil and tar, and Smee states that he could distinctly tell whether any one of a number of his batteries in a room were working well, or declining in power, by the sound that its evolution of hydrogen gas caused.

In general, substances to be tested are either already solutions or easily obtained in solution, therefore the apparatus necessary for testing various kinds of food and other substances met with in the household is extremely simple, and may be said to belong almost entirely to test-tube chemistry. Therefore, a test-tube stand with half-a-dozen tubes, two or three beakers, a spirit lamp, and evaporating dish, are nearly all that is required. If thought requisite, a retort stand may be added, and a porcelain crucible and filter included. A few small wine glasses (instead of test-tubes) will often suffice for practical purposes. The re-agents, or substances used to effect the sought-for change, differ in each case, and in special testing, milk, for instance, an hydrometer is absolutely requisite. In testing for organic substances, a microscope of more or less power is very convenient.

The following are directions for roughly testing, qualitatively, certain articles of daily consumption and use :—

Water.—*Sand* and other mechanical impurities may be ascertained by allowing the test-tube to rest for some hours, until the supernatant liquid is perfectly clear ; the impurity will be found at the bottom of the tube. When *lime* is present, oxalic acid or oxalate of ammonium gives a white opaque precipitate. Nitrate of silver solution added to water precipitates all the *chlorides*, and most of the *sulphates* and *carbonates ;* London pipe water generally affords an abundant opalescent precipitate with this re-agent. Acetate or nitrate of lead, in solution, will do the same as nitrate of silver, but not so perfectly. *Iron* (carbonate of, for instance), in solution, is detected by tincture of galls, which gives a black precipitate. *Copper* is tested for by a bright needle immersed in the water for twenty-four hours, the water being acidulated by a single drop of sulphuric acid. *Sulphide of hydrogen* may be detected by the characteristic smell, especially when sulphuric acid is added. If bubbles arise on the addition of sulphuric acid, carbonic acid is present, either in a combined or free state. Most water scarcely influences litmus test paper ; if, however, the paper be reddened, the water is *acid*, if blued, the water is *alkaline*. Any animal matter that is present in quantity may be detected in the water, evaporated to a small bulk, by sulphuric acid, which blackens the water; Condy's fluid may also be used to detect *organic* matter in water. The following valuable remarks upon the action of lead upon water are from Dr. Roscoe's "Lessons in Elementary Chemistry" :—"This solvent action of water upon lead is a matter of much importance, owing to the common use of lead water pipes, and the peculiarly poisonous action of lead compounds upon the system when taken even in minute quantities for a length of time. The small quantity of certain salts contained in all spring and river waters exerts an important influence on the action of lead ; thus, waters containing nitrates or chlorides are liable to contamination with lead, whilst those hard waters containing sulphates or carbonates, may generally be brought into contact with lead without danger, as a thin deposit of sulphate or carbonate is formed, which preserves the metal from further action. If the water contain much free carbonic acid, it should not be allowed to come into contact with lead, as the carbonate dissolves in water containing this substance. The chemical action of a given water upon *lead* may be ascertained by immersing a lead plate in the water for twenty-four hours, and then passing a current of sulphide of hydrogen through a deep column of the acidified water, and noticing whether the liquid becomes tinged of a brown colour owing to the formation of lead sulphide. The specific gravity of water is some indication of the amount of *impurity* present ; distilled water being 1,000, sea water is 1,026. Evaporation of a small quantity in a watch glass, by means of a sand bath, gives some idea of the amount of *solid matter* present, distilled water leaving no residue.

Beer.—Most beers, especially pale ale, manifest the amount of *phosphate of magnesia* contained in them from the malt, when strong ammonia-water in small quantity is added, and the test-tube shaken up well and left to stand for some hours. Good beer should ultimately show a brownish bulky gelatinous precipitate of ammonia-magnesic phosphate, about half an inch in depth for four inches height of the liquid in the tube.

Bread.—Bread containing alum is very unwholesome, and is generally unnaturally white in appearance. To test for *alum*, the phosphates must be first eliminated ; for this purpose incinerate a small piece, boil with a mixture of nitro-hydrochloric acid and one-third of water, and evaporate to dryness. When cold, add distilled water and boil, at the same time adding caustic potash thereto, boil again, filter, and nearly neutralize with hydrochloric acid. The alum, if any, may then be precipitated by the addition of ammonia water. Occasionally a small quantity of sulphate of *copper* is used in making bread ; this poison can be detected in water that has had the bread soaked in it, by means of the needle, as described in testing water. Sometimes, to add to the weight of bread, there is more *water* introduced into its composition than naturally occurs ; evaporation in a water bath until it ceases to lose weight tells the amount of water. The amount of water in ordinary bread is 66 parts in 150 parts.

Milk.—The specific gravity of good milk is 1,030; adulteration with *water* lowers the specific gravity. In a six-inch test-tube, allowed to stand over-night, full of milk, from one quarter to half-an-inch depth of *cream* should float by the morning. If the milk be adulterated with *chalk*, dilution with water will throw the chalk down as a precipitate. If a portion of the milk be evaporated to a small bulk, and then presents a reddish or orange-red colour, *annatto* is probably present ; it is certainly present, if acids change this colour to a purple and alkalies to a red colour. If *salt* be present, and the milk evaporated to dryness, the ash has a saline taste.

Tea.—By shaking some of the dry tea, a portion of the colouring matter may be collected on a glass plate to view under the microscope. The microscope should have a large angular aperture, and be capable of 300 diameters linear magnifying power. Any *Prussian blue* particles that are visible may be bleached by a drop of caustic potash solution. If a white powder remain after heating the colouring matter to redness, it indicates the presence of *kaolin* or Chinese clay. If a portion of the powder effervesce, on the addition of acid thereto, *chalk* is present.

Vinegar.—Although it is not necessary, nearly all vinegar contains sulphuric acid in small quantity, a certain amount being allowed by law. The relative amount of *sulphuric acid* in two specimens of vinegar may be approximately ascertained by filling two equal-sized test tubes to the same height respectively with the liquid, and adding barytic nitrate solution to each until precipitation ceases. The relative height of the precipitate in each, after standing, will show, to some extent, the proportion of sulphuric acid in each. Sometimes *burnt sugar* is added to vinegar to colour it ; to test for this adulteration, about half a fluid ounce is evaporated to dryness in a water bath, the extract is boiled with alcohol, and the alcoholic solution be evaporated ; if the residue be dark-coloured and have a bitter taste, burnt sugar was present.

Coloured Confectionery.—The copper salts are not so much used now as they were formerly, to produce the bright greens. The presence of *copper* may be ascertained by digesting a small piece in water, and proceeding with the solution thus made as set forth under the head of water. If *calcic sulphate* is present, it shows itself by its insolubility in water.

Pickles.—The liquid from these may be tested for *copper* by means of a needle as described above.

Ink.—If there be any *copper* salt in the ink, it is highly objectionable, and tends to destroy steel pens quickly ; it is tested for as above, or simply by a clean steel pen.

It is almost superfluous to mention that the apparatus employed to make these tests should be scrupulously clean, that plenty of water should be used to wash away the remains of former work, and that whatever apparatus is used should, when done with, be put away in a clean and orderly condition.

By satisfying oneself of the truth, in such ways as those herein pointed out, the mind of the observer himself is re-acted upon, and habits of exactitude, reasoning, and investigation are promoted.

CHEMICAL SOCIETY.

PROCEEDINGS of the Chemical Society, Thursday, 17th April, 1873, Dr. Odling, F.R.S., President, in the chair. When the usual business of the Society was completed, the president called on Dr. Debus, F.R.S., to deliver his lecture "On the Heat Produced by Chemical Action." During his discourse the speaker considered the relation existing between the chemical affinity of the metals, and the amount of heat they develop during oxidation or combination with chlorine, iodine, &c., and also the various interesting conclusions which may be drawn from the thermic results obtained by the solution of salts, especially noticing that in double decomposition taking place in solution, those compounds are always produced which develop the greatest amount of heat.

Thursday, 1st May.

Dr. Odling, F.R.S., President, in the chair. After the usual business of the Society had been transacted, three memoirs were read. The first by Dr. H. Sprengel, "On a New Class of Explosives," gave an account of some new explosives, consisting of two liquids, inexplosive by themselves, but which, when mixed and fired with a detonating charge, are as effective as nitro-glycerine. In the discussion which ensued, Professor Abel, of the Royal Arsenal, Woolwich, drew attention to the great difference produced by variations in the mechanical state of the explosive.

The other papers were "On Zirconia," by Mr. J. B. Hannay, and "A Note on Pyrogallate of Lead and on Lead Salts," by Mr. W. H. Deering. The meeting was finally adjourned until Thursday, the 15th May, when a lecture "On Isomerism" will be delivered by Dr. H. E. Armstrong.

LIMITED LIABILITY.

THERE is a growing disposition to deal with the Limited Liability Act, and to deprive it of the power of being a cloak for retail trading, and an escape from the responsibilities that attach to the individual that does the like kind of business. The Limited Liability Act is excellent as a real protection for capital legitimately seeking means of investment, but it was never meant to hide the retailer who takes in enough partners with limited capital, to enable him to escape responsibility in case of failure. If an advantage (by Act of Parliament) is to be given at all, it should certainly be to the individual against a combination of numbers. Since 1862, about 452 co-operative societies have been disestablished, and about 230 have not complied with the requirements of the Act, and are no doubt dissolved. These associations, without having done any good during their existence, have injured trade to an enormous extent. It is individual enterprise that has placed the country in its present position, and as it is next to an impossibility for co-operative associations to exist for any length of time, the individual ought in the meantime to find legitimate protection againt retail associations. They have entirely failed in America, and will doubtless ultimately fail here, for the simple reason that no one party is sufficiently interested in the concern. With an individual acting for himself it is quite different: his entire interest is centred in the conduct of his own affairs to the best advantage. But there ought at least to be equality in the administration of the law to both.—*Court Journal.*

REMARKS ON COMMERCIAL DILUTE HYDROCYANIC ACID.

By John Abraham.

Read at a Meeting of the Liverpool Chemists' Association, May 8th, 1873.

THE dilute hydrocyanic, commonly called prussic, acid of the Pharmacopœia is composed of two parts of hydrocyanic acid and ninety-eight of water. It is made by distilling together a solution of ferro-cyanide of potassium and a dilute sulphuric acid. The product is of uncertain strength, because the whole of the hydrocyanic acid is not necessarily condensed. The relative quantity obtained must be ascertained, and the liquid made to correspond to the standard.

The correctness of the preparation will depend upon the accuracy with which this is done. But however carefully it may be accomplished, the resulting acid may afterwards be found defective. It is liable to decomposition, especially if exposed to light (though our Pharmacopœia does not mention this), and to loss of strength by exposure to the air, owing to the greater volatility of the hydrocyanic acid than of the water. Especially must this be the case when the contents of a small bottle are used up by little and little during a considerable period of time. The strength of eight specimens procured from different sources was ascertained by Dr. Tilden, and the result of his examination will be found in the *Pharmaceutical Journal* for July 29th, 1871. His report exhibits a scale ranging in percentage of real acid from 2·183 to 0·483. Four of the specimens are under 1 per cent., the true standard, as I have mentioned before, being two.

During the latter part of last year I obtained specimens of the acid from four wholesale houses. The percentage of real acid I found to be—

1·64	2·02
1·30	1·64
2·11	1·30

instead of 2. Compared with the pharmaceutical standard the strengths are:—

$$\left.\begin{array}{c}105\cdot5\\101\\82\\65\end{array}\right\}\text{ per cent.}$$

This is not nearly so great a disparity as is exhibited by the table of Dr. Tilden, but it is so great that I think dispensing chemists should be put on their guard.

The *Pharmacopœia* says that 100 grains of the acid precipitated with a solution of nitrate of silver will yield 10 grains of dry cyanide of silver. The application of this test requires time; for unless the precipitate be thoroughly dried—and nothing but time can ensure this—it is delusive. Moreover, you cannot safely diminish the quantity operated upon unless you employ a delicate balance.

The *Pharmacopœia* gives a further and very beautiful volumetric test.

We are told that 270 grains of the dilute acid, rendered alkaline by solution of soda, requires the addition of more than 1,000 grain measures of volumetric solution of nitrate of silver before a permanent precipitate begins to form. If the acid under examination requires only 900 grain measures, then the strength is only $\frac{9}{10}$ of the proper strength; if it requires 1,100 grain measures, then the strength is $\frac{11}{10}$, and so on.

The experiment is directed to be performed by means of a burette holding 1,000 grains, divided into 100 equal parts. But such quantities as these do not suit a dispenser who, perhaps, only buys an ounce or two at a time, as is, I suppose, the case with many.

The experiment may, however, be performed equally well with smaller quantities and appropriate instruments. This 100-grain tube fitted as a Mohr's burette enables me to experiment on quantities one-tenth of those named, and to obtain equally accurate results, because half a grain in this tube is as distinctly indicated as five grains in the other—indeed, rather more distinctly. Filled by suction through an elastic tube, the result is obtained more easily and quickly.

In using a large tube one is apt to get impatient, and to add the test too rapidly—at least, I am—and then one has to begin again. These smaller tubes holding 100, 300, and 500 grains, in which every grain is shown, are far more convenient, because you can, without any great exercise of patience, watch the effect of every drop which you let fall. But those who have not these tubes have the minim tube with elastic ball, which I introduced as an improvement on Alsop's more than twenty years ago (*Pharmaceutical Journal*, 1851-2, p. 268). An experiment with this would be far better than none, and carefully made would give almost accurate results. Add 27 minims (strictly 26·919 minims) to a little solution of soda or of potash (for the latter will do equally well), and the number of minims of volumetric solution of nitrate of silver, which must be added before a permanent precipitate begins to form, shows at once, without calculation, the percentage of strength compared with that of the Pharmacopœia. As a check this is perhaps sufficient; but the volatility of the substance should be remembered, and accurate experiments must be performed in flasks.

ON THE MEANS OF DETECTING AND ESTIMATING BROMIDE IN IODIDE OF POTASSIUM.

Paper read before the Liverpool Chemists' Association by Mr. Alfred E. Tanner, May 8th, 1873.

IT occurred to me that the above subject would be well worthy of attention at the present time, for not only are the processes for detecting and estimating bromide in iodide few and imperfect, but it also seems to me a very probable adulterant, inasmuch as there is a great difference in price between these two salts, and the difficulties attending the detection of bromide when mixed with iodide are considerable.

Cl, Br, and I so resemble one another in their chemical characters and reactions, that it becomes a difficulty by no means easily surmounted to distinguish them when in the presence of one another, and this is especially the case with the two latter, and as a sample of K I may contain 75 or more per cent. of K Br and yet be indistinguishable from the pure article when tried by the pharmacopœia tests, it needs little further to point out the desirability of investigating this subject; and before I go further, I must confess that I fear I have accomplished little towards doing away with the difficulties. What we require is a test presenting no great difficulties of application by the ordinary pharmacist, and one which shall indicate with a fair degree of accuracy the object sought to be attained. Of course it is well known to chemists that $PtCl_2$, when added to a neutral solution of an iodide containing bromide, will remove the whole of the I without affecting the Br, but $PtCl_2$ is a rare and most expensive reagent to use, and would scarcely pay the pharmacist who examines usually but small parcels of iodide at a time. This, although I believe to be the most accurate, we must consider out of the question. Recent chemical works tell us that a mixture of $FeSO_4$, two parts, and $CuSO_4$, one part, added to a neutral solution of an iodide, in the presence of bromide and chloride, and the mixture neutralized with NH_3, will remove the whole of the I without affecting the Br or Ch. In my hands, at least, the practice of this process has been attended with only partial success, for I have found it impossible to remove *the whole* of the I; the difficulty therefore remains as great as ever; it is probable, however, that further experiments with this test may yet prove it adequate to the purpose. I rather suspect the Cu_2I_2 to be slightly soluble in the solution from which it is precipitated; we must therefore seek some salt to add to the mixture to prevent this. The following is the reaction stated to occur:—

$$2\,KI + 2\,CuSO_4 + 2\,FeSO_4 = Cu_2I_2 + K_2SO_4 + Fe_2 3SO_4$$

A test proposed by Van Melckebeke (*Journ. Pharm d'Anvers*, xxviii. 49, 1872 seemed to promise well, and from its great simplicity would have been a valuable one, if successful. It depended on the fact, that a saturated solution of one salt is capable of dissolving appreciable quantities of another salt. A saturated solution of KBr was therefore used, and to this the sample of KI, in powder, was added in small quantities at a time, when, if pure, it dissolved readily but if KBr were present, the liquid being already saturated with this salt, it would remain undissolved. Repeated trials with this test has proved to me that it is quite useless. The author recommends you to take 10 cc. of the saturated KBr solution, and to add to this 10 drops of distilled water; 1 gm. of the suspected salt, in powder, is then added, small portions at a time, which, if the iodide be pure, should at once dissolve; but 10 drops of distilled water is quite sufficient to dissolve 5 or more grains of KBr, and if no water be added, some KBr is very liable to be thrown out of solution by the shaking necessary. The next test I tried was one by M. Personne, published in the *Journal de Pharmacie.* It depends on the property possessed by $HgCl_2$ of precipitating a solution of iodide but not one of bromide, bromide of mercury being soluble. It is necessary to the success of this test that the iodide be free from KIO_3, KCl, and K_2Co_3.

I may mention here the KIO_3 is much more frequently present than is generally supposed, and traces of it may generally be detected in the best samples of iodide, and as this salt (KIO_3) is stated on pretty good authority to be of a poisonous nature, it behoves us to be on our guard against it: it is fortunately easy to detect by adding a little starch solution to the iodide to be tested, and then adding a small quantity of tartaric acid, a blue colour is developed more or less rapidly, by the liberated iodide acting on the starch, if the KI contains KIO_3, thus:—

$$5\,KI + KIO_3 + H_2C_4H_4O_6 = K_2C_4H_4O_6 + 5\,HI + HIO_3$$

and

$$5\,HI + HIO_3 = I_2 + 3H_2O.$$

1 gm. Hg Cl_2 is dissolved to 20 cc. with distilled water, of this solution 16 cc. is capable of removing the whole of the I from 1 gm. KI. If therefore the KI be mixed with KBr a proportionably less quantity of the mercuric solution will be required.

It is a somewhat curious fact, and one which I have nowhere seen recorded, that when exactly half the mercuric solution is added a permanent precipitate begins to form, and I consider it highly probable that the reaction which takes place is analogous to that which occurs in testing HCN by what is termed Liebig's process, in which a volumetric solution of Ag NO_3 is added to a weighed quantity of HCN; and when exactly one-half the cyanogen is displaced, and permanent precipitate of Ag CN commences to form, a soluble double salt is first formed and shown by the precipitate dissolving as fast as it appears until exactly half the solution has been used; the HCN is first made slightly alkaline with Na O

$$AgNO_3 + 2\,NaCN = AgCN, NaCN + NaNO_3$$

and

$$AgCN, NaCN + AgNO_3 = 2AgCN + NaNO_3$$

and similarly with KI and Hg Cl_2

$$HgCl_2 + 4\,KI = (KI)_2HgI_2 + 2KCl$$

and

$$(KI)_2Hg_2I_2 + HgCl_2 = 2\,HgI_2 + 2\,KCl$$

I prefer to make the formation of a permanent precipitate as the finishing point of the process; it is much more sharply defined than the point at which the precipitate ceases to form Should it be preferred, however, to make use of this latter (and it is useful as a check on the first part of the process) the best way is to take a glass tube open at both ends, about 15 cm. in length and 5 mm. diameter, and to tie over one end a small piece of filtering paper; on moistening this and depressing the tube into the iodide solution, a few drops may be filtered off and transferred (by inverting the tube) to a porcelain slab and small test glass, and a drop of the mercuric solution added; it will then be instantly apparent whether the reaction is complete or not.

I append the result of my experiments with KI containing quantities of KBr.

Percentage of KBr in 1 gm KI	Precip. commenced.	Precip. ceased.
0	8·0 cc.	16·0 cc.
5	7·6 cc.	15·3 cc.
10	7·3 cc.	14·6 cc.
15	6·8 cc.	13·6 cc.
20	6·4 cc.	12·8 cc.
25	6·0 cc.	11·9 cc.
30	5·7 cc.	11·3 cc.

1 gm KI = 81 gm $HgCl_2$

In conclusion, I would strongly recommend pharmacists to practice these volumetric processes, for they afford easy means of determining purity in many cases in a few minutes, where the ordinary processes take as many hours.

CONSCIENTIOUS PHARMACY.

We think English readers will read with interest a discussion which took place at the last meeting of the American Pharmaceutical Association, and which was originated by a paper read by Mr. Ottmar Eberbach, on the quality of some commercial elixirs. These elixirs, according to the author, are very popular among the American physicians; they are intended to serve as an agreeable vehicle for the administration of certain medicines, but as they all contain a large proportion of alcohol, they seem, said the writer, "to serve more the purpose of an intoxicating stimulant than that of a medicine."

Mr. Shinn.—Physicians are led to the adoption of these elixirs for two or three reasons; one is, they like to have a very nice formula presented to them to save the trouble of making one out. Then, again, they are not familiar with pharmacy sufficiently to enable them to compose a nice preparation. If we had an officinal aromatic tincture, as we have an aromatic powder, they could much more readily contrive formulas direct for each case, containing the exact amount of alkaloids and other articles they want, and have as nice an article as any manufactured. It is a malicious falsehood for some manufacturers to represent that their preparations contain such an amount of these various ingredients. It is calculated to mislead the physician, and might endanger the life or well-being of the patient. I think the physicians are inexcusable for adopting them. Another great reason is the ignorance and inefficiency of the great mass of pharmacists, who cannot make these preparations themselves, or who buy them instead of making them.

Prof. Moore.—I don't know that it is altogether ignorance on the part of the pharmacists. The manufacturers canvas the country, visit every physician, make him a present of samples, and give him to understand that the preparation is to be had at every respectable drug store. The consequence is, the physicians prescribe them, and although the pharmacist may have a better article and all the talent to make what is necessary, he is compelled to keep a dozen kinds of the same elixir, sometimes articles that he knows to be worthless, to fill physicians' prescriptions. It is the result of the tremendous drumming on the part of manufacturers, and ignorance on the part of physicians.

Dr. Squibb.—One little element my friend Moore has left out—the profit to the dispenser; because if he did not make a good profit on these things he would not keep them at all. We are after a living, and we would not sell elixirs or anything else if we did not make money on them. I was told by one gentleman, if the angel Gabriel came down, made a preparation, and put his own stamp on the bottle, he would not deal in it unless he could make a fair profit on it. The paper that has been read is an important one, and if the pharmacists will take up its spirit and pursue it, they will do a great deal of good. Physicians are ignorant enough; they are liable enough to go on the ready-made clothing-store principle; they will take anything that is compounded and save themselves the trouble of compounding. There are no two patients whose conditions are right for the same preparation of these elixirs, and therefore it is really a ready-made clothing system; when you put a definite portion of strychnia, cinchona, and iron into a preparation, you foreshadow a case which requires exactly that preparation. Some require no iron, some a little more strychnia, some no cinchona; and so the physician puts a good many shot into his gun, or is induced to do so by drummers, in the hope of hitting something somewhere. The result of this is, it has become reduced to what is little better than fashionable tippling. It is a fashionable way of getting stimulants into the stomachs of women and children, and as such it deserves the serious reprobation of this Association. There is no way we can do more good, and place it in a better position with physicians and the community at large, than by setting our faces against this elixir swindle, as it is properly called in this paper.

Mr. Gardner.—When these preparations are made, although originally all the articles mentioned in the labels may have been put into them, when completed, they may not contain more than half the number they pretend to. In the preparation of pepsin, bismuth, and strychnia, they make the preparation acid, with a view of assisting the action of the pepsin. Putting in the acid causes the ammonia citrate of bismuth to be precipitated. If they make it alkaline, then the pepsin is altered.

Prof. Scheffer.—I have stated in the August number of the *American Journal of Pharmacy*, that the alkali does not precipitate the pepsin, but it brings it into a modified state where it has no action on fresh coagulated albumen. I have found in late experiments, that the bismuth salt acts in the same way as neutral alkali salts, like chloride of sodium, sulphate of soda, and so on, that at least the greatest part of the pepsin is precipitated from its solution when mixed with a solution of bismuth salt. I have found that, notwithstanding it may contain the same digestive power (I have found that in one instance), in most cases it loses almost all its power. All the pepsin had been precipitated, and it did not act on albumen. I might here remark, that what I call modified pepsin, I found to be somewhat similar to the pancreatic juice, as it dissolves partly-digested albumen as well in an alkaline as in an acidulated state. The pancreatic juice dissolves albuminous and fibrinous substances which have escaped digestion in the stomach, so it may be that the modified pepsin acts in the same way.

Mr. Bedford.—In spending a day with Mr. King, at Middletown, last week, we were talking of the effect of pepsin and bismuth, and his results, as published in the September number of the *Journal of Pharmacy*. He gave me a sample of his elixir for Mr. Scheffer, and says that after thirty days no precipitation occurs. It still acts on coagulated albumen, and contains the quantities given in that paper.

The President (Prof. Ebert).—The results of Mr. King, I think, will shortly be sustained. It is due very likely to a small quantity of bitartrate of potassa in the sherry wine that prevents the precipitation of bismuth, as we found by a number of experiments made at my store. I would also state how I have overcome this elixir swindle. I have taken rather a peculiar stand in this matter. I have obtained samples of all those manufacturers who have drummers around the country to get physicians to use the elixirs. From their specimen books, or their labels, I write down their formulas, and I prepare a simple elixir which is composed of cardamom and orangepeel, and when prescriptions come into my store, I put in exactly the ingredients that these men claim. I have once or twice had physicians come to me and complain that my elixirs were not as pleasant. I said no, I did not expect they were, but they contained the ingredients that the manufacturers claimed for their elixirs, and since I consider myself quite as competent to make them, I should prepare them when prescribed. Some of you may think that is losing money, because the physician will not send any more prescriptions there, but I have not lost any since I have taken that stand-point and adhered to it.

Mr. Balluff.—That is very good, but can it not be regarded as a substitution? Is a pharmacist allowed to substitute one thing for another that is prescribed? For instance, pharmacists know that many physicians prescribe the extract of ergot of Dr. Squibb; has a pharmacist a right to dispense, instead of Dr. Squibb's, his own preparation? It is a question, I think, which has never been before any meeting, and it should be discussed. I know that some physicians (although we are very careful in preparing our pharmaceutical preparations, and enjoy a good reputation), if we should substitute our own fluid extract for Dr. Squibb's, would blame us for it. I think if a pharmacist dispenses his own preparation, made according to the officinal formula, he should be allowed to dispense it in all cases, as long as it is not a preparation after a private formula. I would like to hear an opinion on this subject, and in regard to what the President stated about substituting his own elixirs in place of those of the manufacturers prescribed by the physician.

The President.—I do not substitute my elixirs. I simply put into the prescription exactly what the physician expects. He expects one grain of quinia, 1-60th of a grain of strychnia, and so many of iron. I dispense it, and say to the physician, "I have put up the prescription as you wish it. Don't you wish it as the label says?" He says, "Yes." I denounce the thing as a humbug. I say, "You are dosing your patients with sweet alcoholic solutions, and not giving them the ingredients, but if the prescription is put up at my store, you get them." Then if he chooses to withdraw his patients from my shop, I will stand it

Prof. Moore.—I take rather a different plan from the President. I keep no man's elixirs in my establishment but my own, and I say distinctly to every physician who prescribes elixirs, if he wants John Wyeth's, or anybody's else, he must send somewhere else. I have invariably found physicians say to me, "Furnish your own; all we want is a good elixir." I know establishments that have to keep a dozen different preparations. I don't have them; the consequence is I don't have drummers. They know when they come to Baltimore, they need not come to me, and they don't come. In regard to substituting my own extract of ergot for Dr. Squibb's, I should unhesitatingly do it, or any other officinal preparation. I make it and dispense it. I don't say this because I have any disrespect for Dr. Squibb, but I feel that I am as capable of judging of good ergot as perhaps Dr. Squibb is, and just as capable of making it as the hands in Dr. Squibb's employ. I think every apothecary, every pharmacist, is justified in making and dispensing his own preparations when they are officinal.

Mr. Balluff: I always follow that course, and dispense my own preparation if it is officinal, but I brought up this question to inquire what the opinion is. Such a thing may cause a complaint before the courts. They might say, "You are a dispenser of medicines; you put up physician's prescriptions, and it is your duty to compound them strictly, according to the wording of the physician's prescription."

Mr. Shinn: I think it is better sometimes to dispense according to the intention of the physician than according to his exact words. If we were to dispense according to their words, we should have more deaths than now.

Mr. Eberle: I once had a physician tell me when I corrected an obvious mistake, that if he ordered brickdust, I was to put it in.

Mr. J. F. Hancock.—My practice is to follow literally the prescription. I think it is the proper course. If any man's preparation is ordered, give it. If you wish to exert a moral influence, go and speak to the physician first. Give him your opinion, and if you can give him just reasons for not using this man's preparations, he may afterwards allow you to dispense your own. I have in my trade run out almost entirely the elixirs of the various manufacturers just in that way, by talking to the physicians. The physicians have been humbugged by the apothecaries, and when you make charges against physicians such as have been made here, you are wrong. We should not charge ignorance upon the physicians when we have so much of it among ourselves. They are ignorant because they are misled by reputable apothecaries, who, while pretending to be opposed to all this, do it themselves, excusing themselves by saying they are opposed to it, but "if that man makes it, I must make it." I think the proper plan is to discourage the use of preparations not consistent with science by representation to the physicians.

Prof. Moore.—I should like to ask whether Mr. Hancock considers a man that would do as he has stated, a "reputable apothecary?" Would a "reputable apothecary" deceive a physician, and will he get out a preparation which is not what it purports to be?

Mr. Hancock.—I think we have some reputable apothecaries (men whom the physicians and apothecaries regard as competent, and who have a good standing in the community) that do things, touching these manufactures, that are not exactly honest, and I think they compromise themselves very much by their acts.

Dr. Squibb.—I think this is a point upon which every man must be a law for himself. It is a matter in which we must be governed by our own consciences, and allow others to be governed by theirs. For my own position in the matter, I, as a pharmacist, would not consider myself a reputable pharmacist if I did not obey the order of the physician. If a physician were to order from me an article which I didn't have, I would decline the prescription. If he were to order Squibb's Fluid Extract of Ergot, and I hadn't that article, I would decline the prescription. I would not put up my own under these circumstances. I would let that physician know I made an officinal fluid extract as good as Squibb's, and would tell him that very plainly, and if he allowed, I would put it up. So it would be with the elixirs of John Wyeth. I would tell the physician I hadn't that preparation, and could not put it in literally, but if he would allow me to put in my own elixir, with the constituents named on the label of John Wyeth, I would do it. I therefore oppose the position of Mr. Moore, although it may not be modest for me to do it, since my name has come in, but I cannot allow that I agree to any interference with the physician's prescriptions. The prescription should be literally fulfilled, or not fulfilled at all. Any man has a right to say, "I will not put up such and such a preparation." And any man's independence will be respected who will take that ground. If Mr. Moore chooses to say, "No, I make a fluid extract of ergot which is officinal; Dr. Squibb's professes to be nothing more than officinal; now, if you will allow me, I will substitute my fluid extract for his," there is not one reasonable physician in ten that will not allow him to do it, knowing his reputation, and then he will have the respect of that physician for an independent course, which he will not have if the physician finds out that he has done this without consulting him. That is where we all lose reputation, in taking the law into our own hands, and making our own law apply to others. As I said before, we must each be a law to himself, but we must not forget that the physician is a law unto himself. I know an apothecary in my neighbourhood, who took this ground to a physician who said, "I want you to put up the preparations that Dr. Squibb makes, and that are on his list in my prescriptions." "Sir, I beg to decline that business. I make all the officinal preparations; Dr. Squibb has nothing on his list that is not officinal, and if you will allow me to put up your prescriptions, and put my preparations in, I will do it, but I cannot keep a line of Dr. Squibb's preparations to supply your prescriptions, and another man's to supply another man, and so on." He gained that physician, and he sends all his prescriptions to that store, where they are put up with officinal preparations made by the occupant of that store. He gained that business and the respect of that man by his independent course.

Prof. Procter.—My opinion in this matter is this. I think the apothecary is bound to go as near the literal directions of the physician as he possibly can, and if he cannot comply with the physician's order, let him refuse the prescriptions. There was a case in point recently. A physician ordered Caswell and Hazard's elixir of something or other; I tried at the stores to find it, but it was not to be found, and the prescription was enclosed in an envelope, and sent back with the statement that it could not be found. We subsequently saw the physician, and he changed the character of it. In reference to taking things into our own hands, sometimes physicians do as they do from ignorance, because they really want information, and it is no more than right, that the apothecary should correct the physician, or give him a chance to be corrected; but to undertake to alter the prescription and substitute another article, in a case where the physician has tried the particular article before, and wants it, I think is hardly justifiable.

Mr. Shinn.—I think the apothecary must be a law unto himself. You get a prescription at night for fluid extract of ergot of Dr. Squibb, or Squibb's ether, meanwhile if you refuse it, mother or child may die. If you can give as good an article, I think you are justified in such extreme cases.

Mr. Hancock.—I think if the apothecary will exert his moral influence to overcome these evils, he will do a great deal of good. My course has been, if a prescription comes for one of Dr. Squibb's preparations, or any other preparation that is officinal, and it comes in a hurry, I supply it the best I can; but I see the physician and let him know what I have done. If the order came in the night, I would dispense my own fluid extract of ergot. I have prescriptions sometimes for Squibb's Fluid Extract of Ergot, and I give it. If I have a prescription for Dr. Moore's elixir, or Sharp and Dohme's, I give it, but I make it a point to see the physician, and give him my opinion on the subject. I believe I have increased my prescription business by this course. Take another matter, sugar-coated pills; I have run them out in my trade, because I tell the physician, "I will sugar-coat them myself." I don't do it as neatly, but they answer all practical purposes, and in that way I have the profit of making the pills and sugar-coating them. I can make them up and coat them in a very few minutes; they are always fresh, and there is not the difficulty of dissolving the crust which encloses the pills. If a physician orders a preparation that I cannot get, I tell him, and almost invariably they alter the prescription so as to meet the case. We have a large demand for Ellis's Citrate of Magnesia. When that is ordered, I tell the physician that I make it quite as good.

Prof. Moore.—I have gone through all that, and I have no trouble now. The physicians all understand when they come to my place they get my preparations, and if a physician wishes to prescribe a particular preparation, he does not send it to me.

Mr. Hancock.—I keep all these men's preparations.

BRITISH PHARMACEUTICAL CONFERENCE.

Meeting of Executive Committee, at 17, *Bloomsbury Square, on May 7th,* 1873.

Present—Messrs. Daniel Hanbury (in the chair), Clayton, Williams, Schacht, Attfield, and Moss.

Notes regretting absence were read from Messrs. Brady, Reynolds, Mackay, and Carteighe.

The minutes of the previous meeting were read and confirmed.

YEAR BOOK.

Professor Attfield, Secretary, reported that soon after the Committee Meetings of August last, he proceeded to make arrangements for the publication of the annual volume issued by the Conference. Some correspondence with the printers of the previous volumes, resulted in their offering to again undertake the work at a slight advance of cost After making inquiries on the then recent rise in prices in the printing trade, and from the result of those inquiries, and the general rise in wages and commodities, convinced himself that the requested increase on the previous estimated cost of producing the Year Book was reasonable, he had ventured to allow the advance without troubling the Members of Committee to assemble and decide the point. In September, Mr. C. H. Wood announced to the Secretaries that he had completed his portion of the MS. of the volume, and Professor Attfield had also completed by that time MSS. of the prefatory portion of the book, a correct list of the names and addresses of the 2,000 members of the Conference, an alphabetical list of the towns with the resident members, and a complete report of the transactions of the Conference at the Ninth Annual Meeting at Brighton. The volume was published at the end of December.

HONORARY MEMBERS.

Professor Attfield reported that he had officially communicated with the gentlemen who had been elected honorary members of the Conference at the Brighton Meeting, and had since received the acknowledgments of those gentlemen.

BELL AND HILLS'S LIBRARY FUND.

Professor Attfield reported that he had purchased and had bound ten guineas' worth of books, selected by himself, in accordance with the wishes of the Brighton Chemists' Association, and had presented them to that body in the name of the Committee. The Association had acknowledged their receipt in highly appreciative terms.

FINANCE.

Professor Attfield reported that in November and December last he issued 1,760 circulars requesting members to forward their subscriptions, 240 gentlemen having previously paid without special application from the Secretary. About 1,100 subscriptions in post-office orders were forwarded in answer during December and January. In February 660 of the members were again asked for their subscriptions, and 210 responded; in April the remaining 450 were a third time requested to remit, and about 50 or 60 had done so to that date (May 7). Of the 400 defaulters 57 were three or more years in arrear, 114 owed for the current and the previous year, and 229 for the current year only. Each member who had paid the subscription of 5s., and 6d. for postage, had been furnished with a printed receipt and a copy of the Year Book (the postage for which was 8½d). Fifty Year Books had also been presented to honorary members, public libraries, journals, and provincial associations of pharmacists. The Conference possessed the following stock of Year Books on April 22, 1873:—

In hands of—	1870.	1871.	1872.
Messrs. Churchill	4	12	18
Messrs. Butler and Tanner	0	58	176
Professor Attfield	97	17	154
	101	87	348

With regard to the 50 or 60 members who had not paid subscriptions for three or more years, Professor Attfield said they were mostly gentlemen who resided in towns where the Annual Meetings had been held, and who probably had not originally intended to subscribe to the Conference for more than the one year of their temporary interest in the Association. Many members, however, who had avowedly joined for one year only, and who had not promptly paid the following year's subscription, had been induced to continue membership on being appealed to by the Secretary, or after receiving the various circulars issued during two or three years. The 57 members now alluded to had not responded to such appeals. Professor Attfield proposed that to such members a special letter should be sent, drawing attention to the rule respecting defaulters, and stating that if no answer were received within a given period (say ten days), the name of the member applied to would be struck off the roll by the Executive Committee.

Mr. Clayton thought the Secretaries were wise in endeavouring to induce these members to retain their interest in the Conference; but when such endeavours met with no response the connection should be severed.

Mr. Williams concurred in this view.

Prof. Attfield said that, as a Secretary, he fully appreciated, and even fostered, temporary interest in the Conference, of course also hoping, at the same time, that it might merge into permanent interest; but when men answered neither circulars nor letters year after year, continued appeals would probably become troublesome to such members themselves, and certainly gave useless trouble to the staff.

The course proposed by the Secretary was ordered to be adopted.

NUMBER OF MEMBERS.

In answer to a question from the Chairman, the Assistant-Secretary said that the total number of names on the books of the Conference was 2,071, including 17 honorary members and about 60 candidates for membership.

BELL AND HILLS'S FUND.

Mr. Benger, Secretary, reported that he had written to five or six prominent members of the Conference with the object of obtaining suggestions as to the best method of appropriating the large sums which Mr. Hills had confided to the Executive Committee for the promotion of Pharmaceutical Education, and the Cultivation of Original Research and Pharmaceutical Science generally. The following was a summary of the answers he had received.

Mr. Reynolds thought that the Committee Meeting early in May, after deliberating on the matter, should draw up a set of rules, and immediately afterward invite special attention to the subject by directly laying it before their leading members, and by offering a statement to editors for publication in the usual way. There was no reason why a subsequent Committee in June should not make grants that might be applied for by individuals; but, at all events, before the Annual Meeting took place, members should be invited to name special subjects of considerable extent or importance, and if these required combined energies and involved expenses, the Committee would aid with their advice and, as in the case of individual workers, with grants from the fund. With respect to the ten-guinea grant of books, Mr. Reynolds thought that, although the Pharmaceutical Society of Great Britain was prepared to contribute to libraries, there was an inherent merit in Mr. Hills's original gift for provincial libraries which should preserve it alive.

Mr. Groves thought that no other stimulus than desire for distinction was necessary to induce members to undertake absolutely new work, but the equally useful labour of checking and revising the labours of others, who perhaps had been in haste to be original, was not so attractive; the fund, therefore, might be well applied in repeating experimental work whenever corroboration would seem desirable. The French societies nominated commissions to test the conclusions of almost every pharmaceutical writer in France. Some reputations might disappear in the process, but in the interest of truth such consequences should not be regarded.

Mr. **Tichborne** thought the funds should be entirely devoted to pharmaceutical science. He thought that (*a*) researches might be undertaken with a view to the expurgation of useless preparations from the British Pharmacopœia; (*b*) that a prize should be offered for an essay on the perfecting of the official formulæ, for although this was a matter which should be encouraged by the Medical Council, it was also a subject of national importance; (*c*) another prize might be offered for a natural history of the materia medica; (*d*) an essay was wanted on the best disinfectants and the mode of using them; (*e*) also one on the economy of alcohol in tinctures and other pharmaceutical preparations; (*f*) investigations might also be made on the application of the spectroscope, microscope, and other physical instruments to pharmacy. The prizes should not be too small, or good men would not compete.

Mr. **Brady**, Mr. **Williams**, Mr. **Benger**, and Professor **Attfield** concurred in the opinion that the best mode of procedure would be to follow, with modifications, the course pursued by the British Association, a body which had for many years granted money in aid of researches in science.

Mr. **Benger** submitted the draft of a Circular, including rules relating to the application of the Bell and Hills Fund. After some slight alterations, Mr. **Schacht** moved and Mr. **Williams** seconded a resolution, which was carried unanimously, "That the statements and rules now read be printed and distributed in the manner suggested."

ANNUAL MEETING, 1873.

Professor **Attfield** reported that the usual "Blue List" of subjects for papers, 1873, had been revised, and a copy forwarded to each of the 2,070 names on the books. He had for some time been in correspondence with the officers of the Local Committee in Bradford, and he anticipated that the meeting in September (Tuesday the 16th, and Wednesday the 17th) would be thoroughly successful.

ANNUAL MEETING, 1874.

Professor **Attfield** announced that at the next meeting of the Committee it would be necessary to consider the question of the place of meeting for 1874. The British Association had decided on assembling at Belfast in the autumn of that year. Hitherto the members of the Conference had met in the same town as the Association, on the Tuesday and Wednesday immediately preceding the Association days—a course which benefited both bodies to about the same extent as regarded increased attendances at the respective meetings, though that extent of benefit was more important to their own gathering than to that of the Association, which mustered twelve times their numbers—and it was to be hoped that this convenient and favourite course might be possible next year. It was true that Belfast was a long way off, and that ninety-nine hundredths of the members of the Conference resided in England and Scotland, still distance need not prevent a successful meeting being held if local support were strong. Unfortunately, party feeling in pharmacy was somewhat stirred in Ireland just now by prospective legislation, and might become more so, and it was important that a neutral body like the Conference, which was open to all comers, and which was established not only "for the encouragement of pharmaceutical research," but also "for the promotion of friendly intercourse and union amongst pharmacists," should not take any step which might be one of apparent sympathy with a portion only of the followers of pharmacy or its branches. He had, during the past six months, corresponded on the subject with some of the few members of the Conference resident in Ireland, and would state results at the next meeting of the Committee.

The Committee decided to meet again on Wednesday, May 21st, at No. 17, Bloomsbury-square, at 9.30 a.m.

BRITISH PHARMACEUTICAL CONFERENCE.

THE BELL AND HILLS FUND.

THE following important announcement has been handed to us for publication:—

"At the annual meeting held at Exeter in 1869, Mr. T. H. Hills presented the Conference with the sum of fifty guineas, half in his own name and half in memory of Jacob Bell, suggesting that ten guineas should be applied for the purchase of books for the Chemists' Library in that town. In subsequent years the Executive Committee gave further effect to Mr. Hills' desire to promote pharmaceutical education, by presenting the same value of books to the chemists' library in the town visited. These books have been appropriately bound, and stamped with a device.

"Shortly before the meeting at Brighton last year, when the fund was nearly exhausted, Mr. Hills, with characteristic generosity, added to his original gift the munificent sum of £200 (four Russian Bonds of £50 each). The Executive Committee, after consultation with Mr. Hills, drew up a resolution to the effect that the discretionary power of granting a sum of £10 for books to any local association in towns where the Conference had met be continued; that the principal sum of £200 be retained until the Executive Committee decide that one Bond of £50 be sold out, such sale not to be repeated oftener than once in three years; the Executive Committee for the current year to decide upon the appropriation of such income from principal and interest, by granting sums in aid of original research, or for the cultivation of pharmaceutical science. This resolution was carried unanimously at the Brighton meeting.

"The British Association for the Advancement of Science has for many years expended considerable sums in grants to individuals or committees willing to undertake special work, and this plan has resulted in the accomplishment of much valuable investigation. The Executive Committee of the Conference believe that they will do well to follow such a successful example in the appropriation of the fund placed at their disposal. The sum available during the next three years will be about £80; they are therefore prepared to receive applications for grants in aid of any original research members may desire to initiate or elaborate on subjects of permanent interest and value in connection with pharmaceutical science. It is also thought that many published statements in reference to pharmacy and materia medica need verification, and that some part of the fund may be applied to cover the expense of repeating experimental work, where corroboration may seem desirable.

"The Executive Committee will meet on the 20th of the present month, and again, if necessary, in June, to consider any applications for grants which may in the meantime have been addressed to the Secretaries of the Conference (at 17, Bloomsbury-square, London). The Committee will also be glad to receive suggestions which may assist them in selecting either appropriate subjects for research, or a member, or two or more associated members, or sub-committee, to whom such investigations might be entrusted.

RULES.

"Applications for grants in aid of original research, or to defray the cost of repeating or corroborating important experiments must be addressed to the Executive Committee of the Pharmaceutical Conference through the general Secretaries, such applications will then be considered, and grants made as far as the fund will allow.

"Applicants must give full particulars of the investigation they are willing to undertake, and state their estimate of the cost.

"Members or Secretaries of Committees to whom grants of money have been entrusted are required to present to the next annual meeting of the Conference, a report of the progress which has been made, and before such annual meeting to forward to the general Secretaries or Treasurer a statement of the sums which have been expended, and the balance which remains disposable on each grant.

"In grants of money to members the Conference does not contemplate the payment of personal expenses. Grants of money sanctioned by the Executive Committee expire one week before the Annual General Meeting, and the Treasurer is not authorized after that date to allow any claims on account of such grants, unless they be renewed in the original or a modified form by the Executive Committee.

"In all cases where additional grants of money are made for the continuation of researches, the sum named is deemed to include, as a part of the amount, whatever balance may remain unpaid on the former grant for the same object.

"When Committees are appointed, the first member named is regarded as the Secretary, except there is a specific nomination, and he is the only person entitled to call on the Treasurer for such portion of the sums granted as may from time to time be required."

Hon. Gen. Secs.—Professor Attfield, 17, Bloomsbury-square, W.C. Mr. F. Baden Benger, 1, Market-place, Manchester.

HARVEY'S MOTH-KILLER.

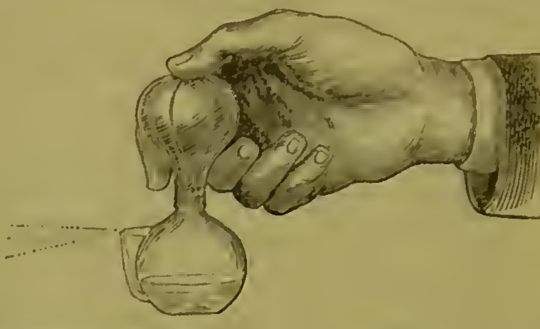
Under this title Messrs. Bourne and Taylor are introducing a sixpenny article, which has the advantage of being as repulsive to the moth creation as it is attractive to human beings. It is simply a novel form of sachet, enclosing some very permanently-scented powder. The framework is box-wood, which will probably last longer than the scent; but, as the little box unscrews, the latter can be easily renewed. The makers supply these moth-killers, or, as they should be called, moth-frighteners, on showy cards, each containing a dozen.

COOPER'S PHOSPHOR PASTE.

The present difficulty about vermin killers containing strychnine has helped to stimulate the sale of such preparations as phosphor paste. A new article of this name has come into the market, manufactured by Mr. Cooper, of Great Berkhampstead, the well-known manufacturer of sheep-dipping composition. Its peculiarity is that it is put up in bottles instead of the usual pots or jars.

BOURNE AND TAYLOR'S SPRAY-PRODUCER.

The drawing represents yet another invention for the diffusion of disinfectants, perfumes, etc. It is extremely handy and simple in construction. The india-rubber ball is fitted to the mouth of the little round glass bottle, and by pressure a fine spray is at once produced from the pipette, as shown in the engraving. The apparatus can be managed quite easily with one hand, and nothing but brute force can put it out of order. In a neat box it sells for 2s. 6d.



GRIFFITHS' ENAMELLING PAINT.

The patent enamelling paint, introduced by Mr. Griffiths, of Fenwick-street, Liverpool, is an article worth the attention of chemists. We have had samples of it, and have also examined specimens of work done by it, and can have no doubt of the many advantages it presents over ordinary paints. On metallic surfaces it dries with a hard glossy enamel, and, to some extent, it presents this surface on more porous bodies. Its base is silica, and this applied to walls ensures perfect dryness, because water only increases its hardness. The employment of this base also renders it much lighter than lead paints, and therefore more economical, while it also has the advantage of being non-poisonous. Some experiments have lately been tried at Leith to test its value as a paint for ships' bottoms. Sheets of iron coated with the enamel paint were immersed in the sea-water for over three months, and after that period the paint was found quite unaffected, and the iron beneath it in no degree corroded. This was a very severe test, and suggests many other useful purposes which the enamel paint can serve. We are informed that it is used for painting the insides of musty ale casks, a service which its absence of poisonous qualities renders possible. Both home and foreign buyers will do well to make themselves acquainted with this paint.

PARLOUR PASTE.

Messrs. T. Ordish and Co., of 90, Newgate-street, are the proprietors of a neatly put-up case, in which is contained a bottle of parlour paste, with a brush. The usefulness of such a preparation in every household will be readily acknowledged by customers when it is displayed before them. For mounting photographs and for other similar purposes paste is preferable to gum, and this seems to have good keeping qualities.

The same firm sell what is known as the Mend-all Cement, and we call attention to it to mention that they supply with it two pieces of glass fastened together by its aid, and showing thereby its strength and transparency.

[The following list has been compiled expressly for the CHEMIST AND DRUGGIST by L. de Fontainemoreau & Co., Patent Agents, 4, South-st., Finsbury, London; 10, Rue de la Fidélité, Paris; and 33, Rue des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following :—

3803. C. B. de Malorti, of Jermyn-street, St. James's, and J. E. T. Woods, of West Kensington. An improved process for preserving fresh meats, game, fish and vegetables. Dated 16th December, 1872.

925. D. C. Miller, of Larkall, Lanark, N. Britain. Improvements in distilling, evaporating, concentrating, agitating, and otherwise heating liquids, part or parts of which improvements are also applicable for granulating or crystallizing materials in solution or mixed with liquids. Dated 13th March, 1873.

928. C. M. White of Lilford-road, Green-lanes. Improvements in stoppers for bottles and other articles. Dated 14th March, 1873.

930. J. R. Francis, of Swansea, Glamorganshire. Improvements in the process and machinery for separating magnetic from non-magnetic substances, and especially magnetic oxide of iron from all foreign material. Dated 14th March, 1873.

959. W. A. Gilbee, of Finsbury. An improved stopper for bottles and other vessels. Dated 15th March, 1873.

963. H. Gardener, of Clifton-road, Holloway. Improvements in apparatus and means for utilizing spirituous substances and oils for the purpose of producing artificial light and heat. Dated 15th March, 1873.

974. W. R. Watson and R. A. Robertson, both of Glasgow. Improvements in filtering liquids, and in the machinery or apparatus employed therefor, being more especially adapted for filtering saccharine solutions. Dated 17th March, 1873.

1044. E. E. Pearse, of New Wandsworth, Surrey. Improvements in the manufacture of glucose or grape sugar from rice and other grain, and in apparatus employed therein. Dated 20th March, 1873.

1067. J. L. Pulvermacher, of Regent-street. Improved means of and appliances for the application of magnetism in connection with electricity for curative purposes. Dated 21st March, 1873.

1121. C. Roberts, F.R.C.S., of Mayfair. Impovements in the preparation of powders for the destruction of animal and vegetable parasities, applicable also as disinfectants and deodorizers. Dated 26th March, 1873.

1139. T. McDonald, of Kingston-upon-Hull, York. Improvements in wrappers or envelopes for seed crushing. Dated 27th March, 1873.

1170. D. Bickford, of London. Improvements in the manufacture of pyroxyline, to be employed as an explosive material and in the manufacture of collodion, also in the treatment thereof when it is to be employed in the solid state for dental and other purposes. Dated 29th March, 1873.

1205. A. M. Clark, of London. Improvements in apparatus for raising and measuring acids and other liquids. Dated 1st April, 1873.

1233. W. M. Brown, of London. An improved granulating machine. Dated 3rd April, 1873.

1270. L. Weber, of Brussels. Improvements in galvanic batteries. Dated 5th April, 1873.

1274. A. W. Ellis, of Madeira-villas, Woodford, Essex. Improvements in the treatment of substances and liquors containing ammonia and cyanogen and in obtaining products therefrom. Dated 7th April, 1873.

1285. A. W. Ellis, of Madeira-villas, Woodford, Essex. Improvements in the utilization of waste products of ammoniacal liquor. Dated 8th April, 1873.

1327. N. Mc F. Henderson, of the Oakbank Oil Works, Mid Calder, Midlothian, N. Britain. Improvements in the destructive distillation of shale or other oil-yielding minerals, and in apparatus therefor Dated 10th April, 1873.

1331. A. M. Clark, of London. A new colouring matter or dye. Dated 10th April, 1873.

1353. T. P. Hawksley, of Blenheim-street, New Bond-street. An improvement in the construction of specula for surgical and other purposes. Dated 15th April, 1873.

1354. T. P. Hawksley, of Blenheim-street, New Bond-street. An improved construction of stethoscope. Dated 15th April, 1873.

Letters Patent have been issued for the following :—

2889. E. T. Hughes, of London. Improved machinery for opening, dividing, and incorporating solid liquid and aeriform matters, and also for the evaporation and distillation of fluids, and the acceleration of chemical processes. Dated 1st October, 1872.

2913. H. B. Barrett and W. B. M. Slado, of Gracechurch-street. Improvements in the preparation or production of disinfecting, antiseptic, and cleansing liquids. Dated 3rd October, 1872.

2934. H. B. Barnett and W. B. M. Slado, of Gracechurch-street. Improved manufacture of fluids for deodorizing and disinfecting purposes. Dated 4th October, 1872.

2941. G. Robbe, of Fenchurch-street. A medical preparation applicable to the treatment of what is known as foot and mouth disease in cattle. Dated 5th October, 1872.

2982. J. Hargreaves and T. Robinson, of Widnes, Lancaster. Improvements in the manufacture of alkalies and in apparatus employed therein. Dated 10th October, 1872.

3032. J. Hargreaves and T. Robinson, of Widnes, Lancaster. Improvements in treating sulphides, and in obtaining products therefrom. Dated 15th October, 1872.

3052. J. Hargreaves and T. Robinson, of Widnes, Lancaster. Improvements in apparatus employed in the manufacture of sulphates of soda and potassa. Dated 16th October, 1872.

3101. W. R. Lake, of London. Improved processes and apparatus for manufacturing compounds of pyroxyline or gun cotton. Dated 21st October, 1872.

3103. R. F. Fairlie, of Victoria-street, Westminster. Improvements in apparatus for the extraction of nitrate of soda from crude nitrate earth stone, usually called caliche. Dated 21st October, 1872.

3250. P. Forbes, of Houndsditch. Improvements in means or apparatus for the preservation of substances for food. Dated 2nd November, 1872.

3323. A. M. Clark, of London. Improvements in the manufacture of stearic acid. Dated 8th November, 1872.

3585. F. M. Lyte, of Asnières, France. Improved process of treating and purifying crude phosphoric acid, and in the production of soluble phosphates, also for the manufacture of phosphorous, and the treatment of certain residues resulting therefrom, and phosphate of alumina. Dated 28th November, 1872.

97. R. Thwaites, of Waterloo-road, Lambeth, Surrey, and L. A. Stephens, of Peckham-park-road, Camberwell, Surrey. Improvements in corks and in the form of the necks of bottles to be used with the same, and the method of using the same for bottling liquids. Dated 9th January, 1873.

274. R. H. Patterson, of Hammersmith. Improvements in the purification of coal gas, and in the production of alkaline sulphides to be employed for such purpose. Dated 23rd January, 1873.

505. H. Deacon, of Appleton House, Widnes, Lancaster. Improvements in the manufacture of chlorine. Dated 11th February, 1873.

Specifications published during the month :—

Postage 1d. each extra.

1872

2198. J. L. de Negroni. Stoppering bottles. 8d.
2254. J. Fletcher. Eye cup. 6d.
2261. W. E. Gill. Treating vegetable juices. 1s. 6d.
2393. S. Barton. Face shields for respiring in noxious atmospheres. 10d.
2450. F. Lipscombe. Treating noxious vapours. 8d.
2476. A. Deiss. Extracting fatty matters. 4d.
2483. B. Hunt. Physiological battery. 6d.
2496. M. H. Synge. Deodorizing apparatus. 10d.
2503. J. Morgan. Inhaler, for medical purposes. 4d.
2506. E. A. Cook. Treating animal charcoal.
2529. H. A. Dufrené. Preserving fruit. 4d.
2555. J. J. Hicks. Feeding-bottles. 6d.
2557. E. Bushby. Respirators. 4d.
2573. J. Hargreaves and another. Manufacture of hydrochloric acid. 10d.
2614. B. W. Gerland. Manufacture of phosphoric acid, phosphatic manures, &c. 4d.
2630. J. W. Pollard and others. Treating spent oxides of iron. 4d.
2634. C. Tapp. Stoppers for bottles. 6d.
2648. A. C. and A. Duncan. Turkey red. 4d.
2649. W. Meister and others. Colouring matter. 4d.
2704. J. Hargreaves and another. Sulphate of soda. 4d.
2745. E. T. Hughes. Manufacture of salts, carbonates, and hydrates of baryta and strontia. 4d.
2746. E. T. Hughes. Treating greasy and wash liquors. 4d.

Provincial Reports.

CARDIFF.

CHAMBER OF TRADE.

A GENERAL meeting of this chamber was held recently at the Town-hall, Mr. E. Whiffen presiding. A resolution was passed by a large majority to adopt the Bank Holiday Act. The next holiday under this Act will be on Whit-Monday. Formerly the tradesmen closed their establishments during a part of Whit-Monday and Whit-Tuesday, but in future they will not close early on Tuesday.

The president and secretary were instructed to get up a petition against the Bill Mr. Bass is about bringing forward in the House of Commons to abolish imprisonment for debt by county court judges. The question of establishing a trade protection society in connection with the chamber, and with trade protection societies in other towns, was discussed. It was considered that such a society would be very useful to the tradesmen of Cardiff and the neighbourhood, and the secretary was requested to ascertain full particulars from other societies to lay before a subsequent meeting.

GLASGOW.

Glasgow Chemists' and Druggists' Association.

The annual business meeting of the Association was held in Anderson's University, on the evening of Wednesday, 23rd April. Thomas Davison, Esq., President, in the Chair.

The minutes of the previous meeting having been read and adopted, the Secretary gave his annual report, after which the Treasurer presented his financial statement.

These having been adopted, the following motions were brought forward:—

The President, having vacated the chair, moved "That the following alterations and additions be made on the Rules, namely—Rule I. Instead of 'and shall have for its object the mutual improvement of its members, the better education of assistants and apprentices and the general advancement of the interests of the profession and trade,' to read thus,—'and shall have for its object the study of the Science of Chemistry, and other collateral sciences having a bearing upon Pharmacy,' and that the following new Rule (XI.) be added: 'No part of the Society's funds shall be applied by way of dividend, gift, donation, or bonus to any of the members.'"

The President briefly stated his reason for making these motions, which was simply to remove the Association from the burden of taxation. Both motions were carried.

Mr. Fairlie then moved, first, "That the Council take steps to procure another place of meeting in a central part of the city, which could be opened at certain hours as a reading-room, and used as a class-room, and for meetings of the Association in the evenings." Secondly, "That the Secretary be instructed to convene a joint meeting of the Council, and the Committee of the 'Assistants' Branch' early in September, to arrange the business of the session, including Syllabus of Lectures, Essays, Discussions, Classes, etc." Both motions were seconded by Mr. Murdoch, and adopted.

The Election of Office-bearers and Council was then proceeded with. The retiring President (Thomas Davison, Esq.) declining re-election, Mr. John Currie (Sauchiehall-street) was elected President; Mr. Whyte, Vice-President; Mr. Joseph A. Clarke, Secretary; and Mr. William McKenzie, Treasurer.

Council—Messrs. Daniel Fraser, Thomas Davison, Alexander Kininmont, John Black, John Fenwick, Archibald Paterson, R. T. Dun, Robert McDonald, James M. Fairlie, W. S. Galbraith, R. Brodie, and G. Garry.

Auditors—Messrs. J. Hunter and J. Foster.

SECRETARY'S REPORT—SESSION 1872-73.

Mr. President and Gentlemen,—

In accordance with an old-established custom it becomes my duty to-night to lay before you a statement (which shall be brief) of what has been done during the session now about to expire.

I cannot speak definitely as to the number of our members. Many of those who were members last session I believe have left the city, without, however, notifying your secretary of the same. If I might be allowed to give a rough guess I should say that the probable number will be between seventy and eighty, a number less by about twenty than that of last session. But this can be accounted for by the formation of the "Assistants' Association" about that time, which robbed us of several members, and also by the fact of a few of our members accepting situations in other parts of the country. While on this point, I may be allowed to allude to the loss the Association has suffered through the departure of Mr. James L. McMillan from Glasgow to fill a situation abroad. It will be remembered that this gentleman gave several valuable papers to the Association during the last two or three sessions.

Including the present, there have been six meetings of the Association this session. Our first meeting, as most of you are aware, was honoured by the presence of Samuel Chapman Betty, Esq., Member of the Pharmaceutical Council, London, who came to Glasgow specially to deliver the inaugural address of your Association.

We must not forget to express the indebtedness of your Association to Dr. John Clark, Glasgow, who delivered an able and interesting lecture on the "Oxides of Hydrogen" on the occasion of our second meeting, and to Mr. James Stitt, who kindly favoured us with a lecture on "Phosphorous;" nor must we omit to record our thanks to Mr. J. Weir for his short lecture on "Health," and to Mr. Fairlie for his excellent paper on "Artifical Silicates."

The principal features of the past session have been the issuing of a Retail Price List, the formation of an "Assistants' Branch" of the Association, and the Complimentary Dinner on the occasion of the visit of the President, Vice-President, and Secretary of the Pharmaceutical Society to Glasgow.

In regard to the Price List we have every reason to congratulate ourselves on the success that has attended the labours of the committee appointed to carry out that matter. We cannot, of course, say that every chemist and surgeon in the city is closely following out the prices contained in the list, but that the majority are endeavouring to adopt it to the utmost of their power, we believe to be a fact.

The demand for the Price List has greatly exceeded our expectations. The first issue of 300 copies was very soon exhausted, application for them being received from different parts of the country, and from England; and as inquiries still continued to be made for them, the committee thought it advisable to have a second edition printed. This allowed of certain alterations in, and numerous additions to the list being made. As it was thought that most of the towns in the West of Scotland of any importance would most likely before long adopt the Glasgow Price List (as was instanced a short time since by the chemists of Greenock), your committee have had 400 printed this time, copies of which may be had from Mr. Joseph A. Clarke, Convener of Price List Committee, price 1s. In connection with this matter I may say that an advertisement has been inserted in the Chemist and Druggist, and also in the *Pharmaceutical Journal.*

In regard to the "Assistants' Branch" very little can be said, and your Council regret that that little is not of a very encouraging nature. On the 19th February, 1873, a meeting of assistants was called to consider the advisability of forming an assistants' branch of the Association. The attendance was small, but it was moved, seconded, and agreed that such an association should be formed. Office-bearers and committee were then appointed. On the 19th March a second meeting was called, but, as not more than half-a-dozen presented themselves, no business was done.

I cannot attempt to account for the want of interest shown by the assistants and apprentices in this matter. One would naturally have supposed that they would have hailed the formation of such an association with delight; and, instead of giving it the cold shoulder, would have given it their hearty support.

In connection with the complimentary dinner to the President, Vice-President, and Secretary of the Pharmaceutical Society, your Council feel very much pleasure in being able to state that the occasion came off with very great *éclat.* About forty gentlemen sat down to dinner, and among the number were, besides the deputation from London, Messrs. Ainslie, Baildon, Gilmour, McKay, and Young (Edinburgh), Duncanson (Stirling), Stanford (British Seaweed Company), Professors Cowan and Simpson, etc.

Your Council cannot allow the session to close without expressing, in the strongest language, their indebtedness to Mr. John Currie, of Sauchiehall-street, for his kindness in conducting the class for pharmaceutical students, and they feel assured that those students who were regular in their attendance at the class will corroborate the statement that Mr. Currie proved himself thoroughly master of those subjects that it was his self-imposed duty to impart to others, which he did in a manner both able and agreeable. The Council trust they may have the honour of his advice and assistance in connection with any classes that may be started during the coming session.

Through the liberality of that very liberal gentleman, Mr. James McDonald, of the Glasgow Apothecaries' Company, and Mr. Rait Partick, your Council were enabled to offer two prizes in connection with Mr. Currie's class, and which, as many of you know, were carried off by Messrs. Wallace and Clegborn.

There is just one subject more that I wish to touch upon, and that is, the annual festival. Your committee are in the pleasant position of being able to state that it has been a success. After paying all expenses, there is a balance in the treasurer's hands of three pounds sterling. At the first glance, it would appear that this year the festival had been a great success financially; but in case this should cause any of you to be less energetic on the occasion of our next festival, I desire to remind you that, with one exception, the services of those who took part in the concert were gratuitous. Had each gentleman who gave his services on that evening been paid, say, two guineas, I fear that the chancellor of your exchequer would have pulled a long face when giving you his budget.

TREASURER'S REPORT.—1872-3.

	£	s.	d.		£	s.	d.
To balance brought fwrd.	0	12	6	By Books for Mr. Currie's Class	0	13	7
Donations	4	14	0	23 Meetings for Mr. Currie's Class..	1	14	6
Subscriptions :—				Expenses for ditto ..	0	9	0
23 Members at 5/..	5	15	0	Printer's account	5	9	0
22 ,, ,, 2/6	2	15	0	Engraver's	0	8	6
7 ,, ,, 1/..	0	7	0	Post-cards for Assistants' meetings ..	0	5	11½
15 Students, Mr. Currie's Class at 5/ each	3	15	0	Mr. J. A. Clarke, Secretary's expenses ..	2	11	9½
Prize fund reserved ..	0	11	3	Rent of Hall, etc. ..	8	1	0
Surplus funds of Soirée	2	12	8	Janitor's fee	1	1	0
Price List Cash, in Secretary's hands ..	7	8	0		20	14	4
				Balance on hand ..	7	16	1
	£28	10	5		£28	10	5

Audited and found correct, showing a balance of seven pounds, sixteen shillings and one penny, in Treasurer's hands.

(Signed) Mr. R. T. DUN, Mr. RITCHIE, } *Auditors.*

IRELAND.

UNITED SOCIETY OF CHEMISTS, AND DRUGGISTS OF IRELAND.

The monthly meeting of the above Society was held on Monday evening, May 5th, at 12, Grafton-street. Mr. J. A. Ray was moved to the chair. After the minutes had been read and confirmed, the hon. sec., Mr. W. Hayes, read communications from members of the trade in Cork, Belfast, Athy, Armagh, Warrencourt, etc., approving the objects of the Association, and offering their co-operation.

C. R. C. Tichborne, Esq., Ph.D., F.C.S.L., M.R.I.A., was elected honorary member of the Association. The following were elected members :—Messrs. H. N. Draper, Mary-street; Dobbyn, Belfast; T. G. Peel, Armagh. The following were admitted associates :—Messrs. Cottingham, Walters, Beggs, and Kelly.

After some unimportant business had been transacted, a long discussion took place respecting some letters which have appeared in recent numbers of the *Pharmaceutical Journal*. There was a good attendance of members.

HULL.

HULL CHEMISTS' ASSOCIATION.

At the last meeting of this Association, held at the Cross Keys Hotel, the President, Mr. Anthony Smith, being in the chair, the question of the botanical class for the ensuing session was considered, and it was arranged that the President, Vice-President, and Secretary, wait upon Mr. Niven, the curator of the Botanic Gardens, and make the necessary arrangements. The decision arrived at by the committee and Mr. Niven was that the class should commence on Wednesday, May 7th, at 7 a.m., and continue weekly for about 20 weeks, the fee for which should be 10s. 6d.

The winter course of lectures on Chemistry and Materia Medica closed on Wednesday, April 9th; fourteen lectures having been delivered on Chemistry, and twelve on Materia Medica. The average attendance at the chemistry lectures has been 10·5, and at the Materia Medica 9·5.; the number of students for each subject being 14, making an aggregate amount of 28. The attention throughout has been remarkably good, and the lecturer (Mr. H. J. Parson, M.P.S.) in his report of the classes says, "he believes that the majority of the students, if they continue working will prove successful in the examinations which they have in view."

The examination in Materia Medica was held on Wednesday, April 16th, and resulted in Mr. D. P. Roberts gaining the senior, and Mr. H. T. G. Wood the junior prize. The chemistry examination was held on Friday, April 18th, Mr. D. P. Roberts again receiving the senior prize, and Mr. J. T. Morley the junior.

The questions are annexed.

CHEMISTRY QUESTIONS.

1. What is an atom? and what is a molecule?

2. What do you understand by the atomic theory?

3. What are the sources of Potassium and its compounds?

4. How is bromide of potassium prepared?

5. How is magnesia (B.P.) prepared?

6. How is liquor ferri perchloridi (B.P.) prepared?

7. If solution of perchloride of mercury be added to solution of ammonia what is the result?

8. Give a diagram describing the decomposition occuring in the preparation of mercuric iodide by the official process.

9. If solution of common salt be added to solution of nitrate of silver what is the result? If a precipitate, in what is it soluble?

10. Give the source of phosphorus.

11. Give the action of dilute and strong sulphuric acid on the following :—Zinc, iron, copper, mercury, ferrocyanide of potassium.

12. How is citric acid obtained?

13. How would you detect the presence of sulphuric acid?

14. Give as many tests as you know for iron—ferrous and ferric.

15. Give the physical and chemical properties of the following :—Nitric oxide gas, sulphurous anhydride, oxygen, chlorine.

MATERIA MEDICA QUESTIONS.

1. Give the names of the specimens placed before you, and state to what part of the plant they belong.

2. How many kinds of anise do you know? To what orders do they belong, and what are the plants yielding them?

3. How is opium obtained? Is it a gum, and what is the source?

4. State the sources of gamboge, senna, myrrh, and arnica.

5. How many kinds of catechu are there? Which is official and how is it obtained?

6. How is volatile oil of mustard obtained, and from what plant?

7. What is the botanic source of dandelion? And when should it be gathered?

8. How is scammony obtained? What are the adulterations, and how detected?

9. Give the natural orders and botanical names of the following :—Stramonium, belladonna, foxglove, capsicum, sugar cane, henbane, tobacco.

10. How do you distinguish single and double camomile flowers? And these from the adulterations?

11. What is ergot of rye? Where and how produced?

12. What are galls? Where and how produced?

13. What are the official cinchona barks?

MANCHESTER.

MANCHESTER CHEMISTS' AND DRUGGISTS' ASSOCIATION AND SCHOOL OF PHARMACY.

A MEETING of the Council of this Association was held in the rooms, 37, Blackfriars-street, on Tuesday evening, April 22nd, for the purpose of presenting the prizes in the various classes. The President, Mr. W. S. Brown, occupied the chair, and there was a good attendance of students.

The Chairman in opening the proceedings, called on Mr. Siebold to read his report of the School of Pharmacy, which stated that three courses of lectures were delivered, viz., 25 lectures on Pharmaceutical Chemistry, on Tuesdays from 8 to 9 P.M.; 25 lectures on Materia Medica and Practical Pharmacy, on Fridays from 8 to 9 P.M.; and 15 lectures on Botany, on Fridays from 9 to 10 P.M. The number of students was 36 for the Chemistry course, 31 for Materia Medica, and 29 for Botany, amounting to a total of 96 entries. Of the 44 students who availed themselves of the instruction provided, 23 attended all the three courses, 6 attended two, and 15 one course only. The attendance was very good and regular, the average number of absentees not exceeding four, of whom two were prevented by uncontrollable circumstances from attending during the greater part of the session. The chemical lectures were illustrated by experiments as far as the present limited accommodation permitted, but it appeared highly desirable that the necessary provision should be made for more extensive experimental teaching in future.

Questions and problems were regularly given to be worked out at home, and the answers supplied showed that about 50 per cent. of the students had derived a real and lasting benefit from the lectures, whilst the remainder had failed to do so, partially owing to their own indifference and carelessness, and partially on account of their great want of rudimentary education. About one-third of all the students had given the greatest satisfaction. Most had never attended a course of scientific instruction before, and but few could boast of a sufficient amount of thoroughly sound school-training, so important in the study of science. Taking these circumstances into consideration the first session of the school of pharmacy was a gratifying and encouraging success. In point of numbers success had been very great indeed, and had proved that in a large provincial town like Manchester, a school of pharmacy could exist and flourish without any extraneous support whatever. Mr. Siebold believed that failure in schools of pharmacy often occurred by reason that the teacher was not a practical pharmacist.

Competitive examinations had been held in chemistry, materia medica, and botany. Fourteen candidates competed for the chemistry prizes, fifteen for the materia medica, and twelve for the botany prizes. The awards were as follows:—

Chemistry.

1st prize to Mr. Arthur Joseph Pidd.
2nd „ to Mr. Frank Hudson.
2nd „ to Mr. Blacklock.

Materia Medica.

1st prize to Mr. John Blacklock.
2nd „ to Mr. Edward Gardner.

Botany.

1st prize to Mr. J. J. Macauley.
2nd „ to Mr. S. Challiner.

The following were the questions:—

CHEMISTRY QUESTIONS.

1. What is the difference between sulphates, sulphites, and sulphides?
2. If a mixture of six volumes of oxygen and four volumes of hydrogen be ignited by an electric spark, what will be the composition of the resulting gas?
3. How is acidum sulphuricum tested for impurities?
4. Write the notation for phosphate of sodium and pyrophosphate of sodium, and state how they can be distinguished by testing.
5. How much sulphate of magnesium, $MgSO_4 7H_2O$, will be required to make sixteen ounces of magnesiæ carbonas, B.P. $(MgCO_3)_3MgO, 5H_2O$. $Mg=24$; $S=32$; $C=12$.
6. Give a full explanation of the process for making iodide of potassium, and state how it may be tested for impurities and adulterations.
7. How can potassæ citras be distinguished from potassæ tartras?
8. The specific gravity of acidum hydrochloricum, B.P., is 1·16. How much water will be required to reduce an acid of 1·19 sp. gr. to the Pharmacopœia strength?
9. Explain by an equation the mode of making ammoniæ carbonas.

MATERIA MEDICA.

1. How is scammony tested for impurities and adulterations?
2. State how the presence of opium may be recognised in a mixture.
3. How can true Vera Cruz jalap be distinguished from Tampico jalap?
4. How are the leaves of *Cynanchum argel* distinguished from senna?
5. How would you test powdered rhubarb for turmeric?
6. Name the plants from which the following drugs are obtained, and also their natural orders and habitats:— Althææ Radix, Hemidesmi Radix, Digitalis Folia, Uvæ Ursi Folia, Guaiacum.
7. Essential oils are often adulterated with spirits of wine; how would you detect that adulteration?

BOTANY.

1. Name and define the different kinds of underground stems.
2. State all the distinguishing features of exogenous and endogenous plants.
3. What is a perianth?
4. Give definitions of the terms raceme, corymb, and umbel.
5. What are hypogynous, tetradynamous, and monadelphous stamens?
6. Give a brief description of the leaves of *Atropa belladonna.*

The President then presented the prizes (consisting of standard works on chemistry, materia medica, and botany) to the successful competitors. He said it was highly gratifying to the Manchester Chemists' and Druggists' Association to receive such a Report from Mr. Siebold. He need not say the establishment of these courses of lectures had received the most anxious deliberation of the Council. A previous attempt had ended in failure, mainly, he believed, for the reasons stated by Mr. Siebold, that the lectures given were not adapted to the requirements of the classes. He, the Chairman, believed that to Mr. Siebold was due the fact that the Manchester School of Pharmacy occupied a position this session unsurpassed throughout the provinces. The success of the classes was a subject of which the Association may be proud. He hoped that at no distant day they might be in a position to provide a complete course of laboratory instruction. This depended entirely on the more general co-operation of the chemists of the district. If the funds were provided, members might rely on their being spent in the promotion of that which he was not ashamed now to speak of as The Manchester School of Pharmacy.

Mr. J. T. Slugg said he would congratulate the losers as well as the winners of the prizes. The knowledge which all had an opportunity of gaining, and which, as Mr. Siebold had said, so many of the students before him had gained, was itself a prize. He would also congratulate Mr. Siebold on having so entirely gained the respect and confidence of his class; with these he was in a position to secure the progress of his pupils. He contrasted the advantages now offered to pharmaceutical students with those available when he was an apprentice forty years ago, and urged young men to seize these opportunities. He believed it was Lord Brougham who said, if he were only a shoeblack he would try and be the best shoeblack in the parish. Let everyone feel that though he be only a druggist, he will try and be the best druggist in the country.

Mr. Siebold then briefly thanked the speakers for their kind and complimentary remarks, and the meeting terminated.

LIVERPOOL.

LIVERPOOL CHEMISTS' ASSOCIATION.

The eleventh general meeting (twenty-fourth session) was held at the Royal Institution, April 24th, 1873; the President, Mr. E. Davies, F.C.S., in the Chair.

Several donations to the Library and Museum were announced. The following questions were discussed:—What is the best method of preparing perchloride of iron perfectly neutral? What is the best cement for protecting the stoppers of bottles containing acids, etc., for exportation?

Mr. G. F. Chantrell, Hon. Secretary of the Liverpool Microscopic Society, read a paper on "Animal and Vegetable Decomposition," in which he detailed the results of his investigations in the lowest forms of life, illustrating his more important observations, with enlarged drawings.

The President suggested the desirability of some method being devised for microscopic investigation by which the object under examination might be thrown upon a screen, so that different observers could watch the development of the germs into life, and thus relieve the monotony of the constant and tedious watching necessary for successful examination.

In the discussion which followed, the President, Messrs. Abraham (President of the Microscopic Society), Hallawell, Mason, Tanner, and others took part.

The twelfth and concluding general meeting was held at the Royal Institution, May 8th, 1873, the President in the Chair.

Mr. Thomas Williams, F.C.S., called attention to the coating of paint which covers some of the canisters containing the preserved meat from South America and the colonies. The paint on one which he had purchased contained red lead, and after having been carefully opened by the vendor, he found that 50 grains of red lead got into the meat.

Mr. Simpson asked if it was necessary to paint the tins?

Mr. Williams said there was not any necessity, and that they were painted after their arrival in this country, in order to give them a more saleable appearance. He found that only one company used red lead, other tins being painted with silicate of iron paints, which were comparatively harmless.

Mr. Taylor thought that if the tins were lacquered the object would be fully accomplished without danger.

Mr. John Abraham read a paper—"Remarks on Commercial Dilute Hydrocyanic Acid," and Mr. Alfred E. Tanner read a paper on the "Means of Detecting and Estimating Bromide in Iodide of Potassium" (both of which are printed in this number of the *Chemist and Druggist*).

A discussion followed the reading of the papers, in which the President, Drs. Cooke, Symes, Messrs. Mason, Redford, Shaw, and others took part.

The President gave a short valedictory address, referring to the proceedings of the Society during the past session, and the various additions which had been made to the Library. Speaking of the adulteration of drugs he alluded to the case reported elsewhere, in which quinidine had been sold for quinine, and strongly reprobated such practices. He alluded to the death of Baron von Liebig, and spoke of the services he had rendered to science both theoretical and practical. He invited members to join the Botany class, which the Council were making arrangements to hold during the summer months.

Votes of thanks to the authors of papers and the President for his address and the ability with which he had occupied the chair at the meetings, etc. concluded the business of the ordinary meetings of the session.

Correspondence

THE PHARMACY ACT, 1868.

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

Sir,—Kindly allow me space for these few lines in your columns. In the *Pharmaceutical Journal* of last month, Mr. G. Beale alluded to the sale of drugs by unregistered persons. A similar state of things exists in Leeds as at Hull. Within a radius of one mile from my shop, I should say there are no less than forty or fifty small grocery and provision shops, the proprietors of which carry on a certain amount of trade which I think ought to be strictly and exclusively confined to us—viz., the vending of medicinal substances and preparations bearing the names of paregoric, Godfrey's cordial, etc., which, by containing no opium or any ingredient stated in the second part of Schedule A of the Pharmacy Act, thereby evade the law. I think this matter ought to be thoroughly investigated, and a stop put both to the sale of drugs by unregistered persons, and also to wholesale firms supplying the above-mentioned persons with the articles alluded to.

What is the use of young men devoting the time and money necessary for passing the examinations if they are to be opposed by such persons? In fact, what is the benefit of the Pharmacy Act at all if it does not protect our trade. I should much like to see those gentlemen who have the management of the Pharmaceutical Society take this matter up, as I feel sure it cannot be in accordance with the meaning of the Act.

Pharmaceutical women will not do us half the harm that non-pharmaceutical men and women do, and yet the former are being made the subject of continual discussion; but scarcely a word is said in regard to the latter, who are undermining our profession.

Let us chemists unite and still keep the subject afloat, and so try to induce the Council to form some measures that will protect our rights.

A Registered Chemist (by exam.).

Leeds, April 25th, 1873.

An invalid in Indiana, for whom leeches were prescribed, took them internally, but thinks he will have them cooked next time.

Temperance Hieroglyphics.—Permit me to remark, says a correspondent of the *Philadelphia Medical Reporter*, that a man who takes several ʒʒ as his daily al-℥, will, if it does not go against his gr., eventually come to the *gutta*. Or, perhaps, he will take a C. (gal'on) if he carries a *hhd.* on his shoulders. Don't you think that it O. O. that way? After giving the subject our d-lb.-viij. a-x-tion, we do not ℈ to record our adherence to the views here pro-lb.-d.

An Iowa doctor lately thoughtlessly lanced a pimple on a patient's nose with his vaccinating lancet. It took beautifully, but the patient says that both for appearance and comfort he would almost as soon have small-pox.

THE CHEMIST AND DRUGGIST

COLONIAL BUILDINGS, CANNON-ST., LONDON, E.C.

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"WITH regard to the Silicated Carbon Filters, I have made many experiments upon them, and have been astonished at the energy and rapidity of their action. I passed through a small Filter of this make some of the worst description of water supplied by the London Water Companies, and found it, after filtration, to have become as pure as the very best London water. My experiments show that the Filter exercises a decomposing action—a chemical action—on the Organic Impurities in Drinking Water. I have no doubt that Water, which is dangerous from the Organic Matter contained in it, becomes *safe* on passing through the Silicated Carbon Filter. A point of some importance, shown by my experiments, is that a Second Filtration still further improves the quality of Drinking Water. After being in use for a considerable period, Filters lose their power and require renovation. I have found that the passage of a little Hot Water through the Silicated Carbon Filter, and afterwards blowing a little air through it, restores its power."

J. ALFRED WANKLYN, M.R.C.S., London,
Formerly Professor of Chemistry in the London Institution;
Joint Author of a Book on Water Analysis, and of the Ammonia Process.

PURE LINI FARINA.—A NOVELTY.

DRUGGISTS are respectfully invited to make trial of our real LINI FARINA, a pure Flour of Linseed, prepared free from Husk, by a new process, by

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Waverley Oil Mills, Edinburgh, and 146, St. Vincent St., Glasgow.

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OR

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GENUINE PATENT MEDICINES.

IN the history of medicine there is no episode more curious or interesting than the short, brilliant, disgraceful, and yet most valuable career of Phillipus Theophrastus Bombastus Paracelsus. This gentleman, who was born in 1493, seemed to carry with him into the sixteenth century a judgment and experience matured by an acquaintance with the practice and theories of the nineteenth. He treated the schools of physic then in existence with the scorn and ridicule which probably they well deserved, and he went about administering the then almost unknown medicines—antimony, opium, and mercury—with such skill and judgment, that his cures and his fame as a physician soon spread all over Europe without the aid of newspapers, while these medicines, which he may be said to have introduced, have maintained almost exactly the reputation which he assigned to them even unto this day. Such an extraordinary instance of a man living before his time is hardly on record in any branch of learning, and though Paracelsus lived before the days of patents, he well deserves to be venerated as the founder, and as yet the unapproached prince of the inventors and proprietors, of empiric remedies. Had he lived in these days, he would doubtless have been the grandest supporter of newspapers and periodical literature in the world, and his fame would have grown more rapidly. But the unpromising charactor of that age had no power to repress him. He was made professor of chemistry at Basle, the first appointment of the kind in Europe. He secured a testimonial from Erasmus, the most esteemed man of learning then living; and just as he had completed his great invention, the Catholicon, a panacea for every illness, and an elixir of eternal life, he unfortunately died, or he would doubtless have set it going with such an enormous sale as would have astonished the hungry apothecaries and alchemists of that age.

We are led to refer to this half-mad, half-inspired drunkard, because we have before us a very interesting blue-book, in which are printed abridgments of specifications of all patents relating to medicine, surgery, and dentistry from the earliest days of patents to 1866. It would be unjust to the memory of Paracelsus to comment on any of these without giving him the first place in the roll of fame.

P. T. B. Paracelsus had been dead for the best part of a century when King James I. introduced the system of granting patents in this country. The first person to take advantage of the new law in any connexion with medicine was John Dickson in 1620, whose patent is numbered sixteen, and relates to a "certain commodious instrument called a back stall, back frame, or back skreene, for the ease and reliefe of such sick persons and others as are, or shall be, distempered or troubled with heate of theire backes through continual keeping or lyeing on theire beddes."

In 1632 Thomas Grent invents—

> "A moveable hydraulike or chamber wethercall like a cabinett, which being placed in any roome or by a bedside causeth sweete sleep to those which either by hott feavers or otherwise cannot take rest, and withall altereth the drye hot ayr into a more moystining and cooleing temper, either with musical sounde or without."

A few more specifications take us through that troubled century of English history, and in 1726 we find Benjamin Okell describing—

> "A new chymicall preparacon and medicine," styled "Doctor Bateman's pectoral drops," stated to moderate sweat and urine, and to be useful in rheumatism, afflictions of the stone, gravel, agues, and hysteric."

In 1742 Michael and Thomas Belton introduce "an oyl extracted from a flinty rock for the cure of rheumatick and other cases." This is one of tho few remedies which has weathered the competition of a century. The next year John Hooper brings out his "female pills," which he says "are compounded of the best purging stomatick and antihysterick ingredients," but he does not more definitely specify these. In 1747 Dr. Robert James takes out a patent for his still famous fever powder, and, at the same time, for a pill which has been almost if not completely discarded. The powder, he says—

> "Is prepared by calcining antimony by long-continued heat in an unglazed earthen vessel, adding to it from time to time any animal oil and salt. The compound is then boiled in melted nitre, and tho powder is subsequently obtained by dissolving the nitre in water."

Nobody else has ever been able to make the powder by this formula, and it is highly probable that Dr. James never did. In 1774 the same physician ventured on another patent for pills, described as "analeptic pills," and with a fair range of usefulness, including the "lowness of spirits," which is such a fertile source of hope to modern medicine-mongers. These pills contain his own fever powder with pill rufi and gum ammoniacum, the two last having to be dissolved "in a cave underground, furnished with the conductors of electrical fire." Many of the compounds of last century are described as containing a most marvellous variety of ingredients, but one specimen must suffice. This is Godbold's vegetable balsam which, in the specification, is said to be thus compounded:—

> "Thistles, mallows, yarrow, plantain, nettles, cowslips, 'buers, pastory, aron, wake robin, maidenhair, agremony, peony, 'limaria,' endive, calamins, 'maudim wort,' rosemary, rue, 'gibrumbetti,' alecast, featherfew, 'allkenkengy,' angelica, ringea, wormwood, tormentil, horehound, coldsfoot, senna, strawberries, red currants, black currants, rasberries, damasons, capsicum, ciceroy, elderberries, bumberries, garlick, alecampane, betony, milfoil, aniseseeds, slows, hips, peaches, mulberries, buckthorn-berries, tamarinds, and bays. Essences are extracted from these vegetable substances singly, and preserved in syrups; they are afterwards mixed with gum dragon, gum guaiacum, gum arabic, gum Canada, and venus turpentine; the gums being previously dissolved in distilled vinegar, and further mixed with storax dissolved in spirits of wine and oil of cinnamon. The balsam is bottled, and when kept for some years is fit for use."

On entering our own century we meet with many of the patents with which we are familiar in the "sundry" line, but the habit of patenting proprietary medicines becomes less frequent. The inventors have doubtless found it much more profitable to call their medicines "patent" than actually to make them so. They are of the same opinion as the innocent gentleman who could not comprehend his friend's hallucination in descending a coal mine "just to say he had been there." Surely, if he wanted to, he might say such a simple thing as that without going through the trouble and risk of doing it. The heritage of the term "patent" medicines is undoubtedly of no little pecuniary value to the inventors and proprietors of these concoctions, for a good proportion of the nobility, gentry, clergy, and population generally have a strong faith in authority, and devoutly believe that the government stamp is some sort of official certificate of value. It is not altogether gratifying to the more conscientious among the patent medicine vendors to have to take part in maintaining such a silly delusion.

THE PHARMACEUTICAL REPORT, 1873.

If the annual meeting of the Pharmaceutical Society should adopt the report presented by the Council, it will be quite unnecessary to take up time by moving, seconding, and carrying a vote of thanks to the governing body. The beautiful perfection to which the Council has attained is so graphically pictured over and over again in the document to which we refer, that it would be only like painting the lily to add to such exquisite laudation.

The first paragraph, we gather from a leading article in the Society's journal, has been composed with a special view to reply to the comments put forward "under semblance of criticism" as to the singular meagreness of results which the past year's labours have to show. This barrenness, it seems, is accounted and fully compensated for by the abundance of talk which has taken the place of action. We are not disposed to dissent from this conclusion because, as we before remarked, it might very possibly happen that a Council representing so many "different shades of opinion," in other words a shady Council, is safer in lethargy than in activity. The Council, however, by no means acknowledges its deficiency of results, but calmly surveys the pharmaceutical horizon, and takes credit for all accomplished events within its gaze. The one subject which has been pushed through is the alteration in certain respects of the minor and major examinations. Whether this achievement is or is not much to boast about is not the purpose of our present remarks. But this at least is certain, that the Board of Examiners, and not the Council deserve the credit or the blame of such changes as have been effected. The advocates of the new arrangements too persistently assured their critics, while the measure was in embryo, that there was nothing at all to be alarmed at—the alterations were merely of a nominal character, and would simply tend to the establishment of examinations of a more practical character. The prominence given to this almost solitary piece of legislation in the report is not quite in accordance with those assurances. In another paragraph a little further on there occurs another charming specimen of executive kleptomania. It is in regard to Sir John Coleridge's bill to amend the Juries' Act, in which, between its first and second reading last year, a clause to exempt all registered chemists and druggists was introduced, in direct consequence, there is no doubt, of the representations made to the then Solicitor-General by ourselves. The Pharmaceutical Council was good enough to support us in the matter, and on the part of the large body of chemists and druggists, not members of the Society, we have more than once gratefully acknowledged the aid of their influence. The present seems hardly an appropriate time for anybody to be very jubilant, for the bill seems to be as dead as Queen Anne; but when the time does come for the presentation of a silver teapot, we can only hope it will land in the rightful quarter.

The financial statement is satisfactory if looked at from the shop-keeping point of view. The Society has paid its way, and saved about £2,000; but it is not altogether satisfactory to those who are striving so hard to make the practice of pharmacy in this country a more honourable and dignified profession: it is not altogether satisfactory to those who know how vastly the educational opportunities of Bloomsbury-square, to say nothing of provincial towns, might be improved by the expenditure of a few hundred pounds. This accumulation of funds was justly commented on by the President of the Pharmaceutical Conference at Brighton, and the fact that nothing whatever has been done by the Council during the whole of the past year towards the promotion of education, although their opportunities have been so abundant, is surely we think a sufficient reason for us to accept their report with less manifestations of delight than seem to have invigorated the writers of it.

The rest of the balance-sheet speaks for itself. The Laboratory seems to have made a clear ten guineas, and the journal shows a loss of £407; but this latter item is misleading, as the journal account is not credited with any part of the guinea subscriptions paid by members as it should be. At the last Council meeting, it was proposed by Mr. Urwick and seconded by Mr. Betty, that a full financial statement showing, we presume, exactly how the journal was paying, should be presented to the members. Such an innovation was too radical for the outgoing council, and though ten members voted for it, the chairman's casting-vote once more deferred the matter till a more convenient season.

THE DEATH OF LIEBIG.

THE death of this great chemist is an event which leaves a vacancy in the science such as scarcely any living chemist can realize. For nearly fifty years the name of Liebig has been perhaps the most familiar to all, both scientific and popular readers, as the embodiment not of German only, but of universal chemistry. A giant for work, Liebig commenced his investigations at a very early age, and, never tiring, continued them almost to the day of his death. His turn of mind, too, was eminently practical, and it would take a long essay to estimate the results of his labours as they are exhibited to us in daily life. He was born in Darmstadt in 1803, and at the age of fifteen his father apprenticed him to an apothecary in Pappenheim. In ten months he discovered that pill-making was not the chemistry for which he longed, so he ran away from his apprenticeship, and soon afterwards we find him at the University of Bonn, and then at Erlangen, where, at the age of nineteen, he took his degree of Doctor of Medicine. By this time he had become known as an investigator, having published some researches on fulminating silver and mercury, which won for him the friendship of Humboldt, and induced the Grand Duke of Hesse to send him to Paris for the purpose of completing his studies. He became famous there, and in 1824, at the age of twenty-one, returned to Germany, where he was appointed Professor of Chemistry at the University of Giessen. From then commences a career which we shall not even attempt to sketch. He seemed to have the extraordinary gift of going straight to the solution of any question he handled; but the secret of that gift was not inspiration, but an enormous power of work. He, almost single-handed, made the science of organic chemistry, and evolved some of its most startling facts and most useful theories. Professor Roscoe, in *Nature,* thus sketches the conclusion of this heroic life:—

"In the year 1852, having lectured for sixty semestres in Giessen, he left the university to which he had given a world-wide fame, to become the centre of a galaxy of men of science whom Maximilian II. of Bavaria had called to Munich. There, having built himself a good laboratory and a spacious house adjoining, he spent the remainder of his days in quiet labour and well-earned and honoured repose. The active period of his life having passed, he entirely withdrew from discussions on purely theoretical questions, and occupied himself with investigations chiefly of a practical character, such as those on the extract of meat, and on infants' food. He continued to re-edit his various books, indulging occasionally in his old habit of a sharp hit at the views of some scientific brother. His last investigation and critical discussion of the labours of other chemists was published in 1870, 'On Fermentation and the Origin of Muscular Force.' In this he strenuously upholds his old theory of fermentation against Pasteur's explanation of the phenomena, and his views and arguments are as forcibly and clearly expressed as we find them in his early publications. The last of his hundreds of communications to the Annalen is a notice on the discovery of chloroform, published in March of last year, in which he calls attention to the fact that the discovery of this important substance is due to himself in 1831, and not to Soubeiran as is generally supposed, although Liebig overlooked the small quantity of hydrogen (0·8 per cent.) which chloroform contains, and termed it a chloride of carbon.

"Looking once more back upon the labours of Liebig, we come to the conclusion that the chief and characteristic glory of his life is the impulse which he gave to the study of our science and the personal influence which he exerted among his numerous and distinguished pupils.

"The present short and imperfect sketch of the scientific bearings of a great life is not one in which personal qualities can be discussed; suffice it to say that though Liebig was an awkward adversary, he was a faithful friend, and always ready and anxious to assist deserving merit."

TRADE MARKS REGISTRATION BILL.*

A GOVERNMENT Bill has been introduced by Mr. Arthur Peel and Mr. Chichester-Fortescue to provide for the registration of trade marks.

WHO MAY REGISTER.

Any person who is entitled to the exclusive use of any trade mark, and any person who intends to adopt and use any trade mark which can be adopted for exclusive use by him as a lawful trade mark, whether he is a British subject or not, and whether he is resident or carrying on business, or using such trade mark in the United Kingdom or elsewhere, is to be entitled to register his trade mark.

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* See our Trade Report this month for remarks on this Bill.

EFFECT OF REGISTRY.

Upon the registry of a trade mark, and so long as such registry remains in force, the registered owner of such trade mark is to be deemed, as from the date of the registry, to be entitled to the exclusive use of such trade mark, so far as regards the description of goods to which it is appropriated in the register, and the trade mark is to be deemed to have been used, and to have been known in the market to have been used by the registered owner at the date of the registry.

FEES.

There is to be paid to the Registrar of Trade Marks such fees as may from time to time be prescribed, but not exceeding the following :—

MAXIMUM FEES.

	£	s.	d.
Original registry	5	0	0
Transfer or transmission, or partition between joint owners ..	1	0	0
Alteration of register, pursuant to Order of Court..	0	5	0
Annual fee	1	0	0
Annual additional fee for use for one other description of goods	0	10	0
Restoration within three months	1	0	0
Restoration after three months	2	0	0
Notice for use for one other description of goods	0	5	0
Notice of change of place of business..	0	5	0
Notice of omission of "Patent"	0	5	0
Other notices	0	5	0
Certificate	0	5	0
Taking copy of Trade Mark or documents	0	2	0
Inspection of register	0	1	0

DURATION OF REGISTRY.

The registry of a trade mark is to cease to be in force—(1) If it is cancelled by an order of any competent court, either directing the rectification of the register or on appeal; or (2), If the registered owner fails, after demand, to pay the annual fee.

The annual fee is to be deemed duly demanded by the registrar if a notice requesting payment is sent by the registrar addressed to the registered owner at the place at which he carries on business as stated in the register.

FAILURE TO PAY ANNUAL FEE.

If not paid within *one month* after demand, the registrar must strike the Trade Mark out of the register.

If paid within *three months* after such demand, together with the restoration fee of £1, the registrar is to restore the Trade Mark.

If after *three months*, and not more than *twelve months* from such demand, the Board of Trade may, if they think fit, upon payment by the owner of the annual fee, and the restoration fee of £2, make an order restoring such Trade Mark to the register.

At the expiration of twelve months from the demand, if the Trade Mark is not meanwhile restored to the register, the registered owner is to be deemed to have abandoned and lost his right to the exclusive use of the Trade Mark.

ONE TRADE MARK FOR EACH DESCRIPTION OF GOODS.

A person is not to be entitled to have registered more than one Trade Mark appropriated to the same description of goods, unless by the permission of the Board of Trade, granted on good reason being shown.

The foregoing are the main provisions of the Bill.

Wolverhampton.—Mr. F. G. Wedge, chemist and druggist, of this town, has just been elected a councillor for St. Matthew's Ward, in the room of Mr. MacGregor, coal merchant, deceased. There was no opposition.

Northampton.—The arrangements for the exhibition of leather and leather work are being rapidly pushed on, and the committee hope to fix the opening day for July 28th. We understand there is some likelihood of a series of popular lectures on "The Chemistry of Leather and Allied Products" being delivered in connection with this exhibition—rumour pointing to Mr. Wentworth Scott as the probable exponent of this branch of applied science.

REVIEWS

THE CLASSIFICATION OF PATENTS.

Within the last few years, the Patent Office under the able direction of Mr. Bennett Woodcroft, has prepared and published a most useful series of blue-books, each one containing abridgments of the specifications of patents taken out relating to a particular subject up to the year 1866. Up to the present time, the patents concerning fifty-four different subjects have been thus classified, and the volumes are sold separately. Those most likely to be useful to our readers are the following :—

Medicine, surgery and dentistry, 1s. 10d., by post 2s. 1½d.

Preparing and cutting cork, bottling liquids, securing and opening bottles, etc., 1s. 6d., by post 1s. 9d.

Farriery: including the medical and surgical treatment of animals, 1s., by post 1s. 2d.

Paints, colours, and varnishes, 1s. 10d., by post 2s. 1½d.

Acids, alkalies, oxides and salts, 3s. 8d., by post 4s. 4d.

Oils: animal, vegetable and mineral, 6s. 6d., by post 7s.

Photography, Part I—(1839 to 1859), 8d., by post 10d.

„ „ II—(1860 to 1866), 10d., by post 1s.

Electricity and magnetism, their generation and applications— Part I—(1766 to 1857), 3s. 2d., by post 4s.

„ „ II—(1858 to 1866), 9s. 4d., by post 9s. 10d.

Any of these are to be had by applying to Mr. Woodcroft, clerk to the Commissioners of Patents, Southampton-buildings, W.C. Post-office orders are to be payable at the Holborn office.

We publish this information specifically because we know how often it will be useful to the more studious and thoughtful chemists and druggists. The books are carefully indexed, and the abridgments are in all cases done by gentlemen well acquainted with the subjects entrusted to them.

The publication of these volumes is a great boon to inventors themselves, as it enables them with the least possible trouble to see whether their ideas have been anticipated, and if so to what extent.

The great Exhibition of 1851, brought forward so prominently the defects of our patent law as to force it on the attention of the Government. Consequently, in 1852, the old system was set aside and the present regulations came into operation. A synopsis of the requirements of the present system will be found in our January (1873) issue. Since 1866, all inventors have been required to furnish abridgments of their specifications, and it is intended in time to publish these in classified order as those previous to 1866 have appeared. We very much doubt whether abridgments obtained in that manner, some being uselessly brief and others unnecessarily discursive, will prove so good a plan as the employment of professional writers, but on that point, we are not called upon at present to express an opinion. It is most certain that the present managers of the Patent Office, are seeking in various ways to give convenience to the public, and in that respect they set a good example to other Government departments.

CONTRASTS.*

Metropolitan ratepayers owe a debt of gratitude to the anonymous author who, in the very remarkable book before us, has brought under their notice a series of extraordinary facts as to how public money is being spent. The writer evidently treats a subject with which he is thoroughly familiar. He does nothing but state facts: he states them in quite an *unsensational* manner; he manifestly writes in the interest of the poorest class of ratepayers, and of the paupers themselves, or one would be inclined to say that his want of indignation was almost cynical; but his facts are so startling and at the same time, we believe, so generally true, that we cannot doubt his book will ultimately produce some effect, even on the deeply-rooted abuses of this wealthy London.

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* "Contrasts." Dedicated to the Ratepayers of London. London: Strahan and Co.

The plan of the book is to show, by a series of contrasts, what can be, and actually is, done with money in the way of caring for the sick poor or educating pauper children where economy is necessary, and then side by side to show how recklessly and wickedly the vast swollen charitable endowments of the metropolis are wasted and perverted. But when the reader lays down the book he has vividly on his mind one great contrast, which the author has cleverly insinuated but not expressly indicated, and that is, on one side, the poor workers in the East-end earning by hard labour a shilling a day, or often less than that, and paying their share of heavy rates out of it; and, on the other hand, the wealthy classes monopolizing the proceeds of charities left centuries ago expressly for the benefit of the poor, and doing this with no right whatever, but simply because they have the power and the influence to do it. We are introduced to women making caps at 4½d. each, out of which they find material, and gain a profit of about 2d. on each. They cannot work by candle-light, because the cost of the candle would consume the profit. Making the "uppers" of carpet slippers is another occupation largely entered into by the poor women of the East, for making which they receive 3½d. per dozen. Making skewers for dogs' and cats' meat is rewarded at the rate of 8d. per thousand, which pays for wood as well as workmanship. Let the reader think what it is to grind rates out of such ratepayers as these (for though most of them are lodgers, they indirectly help to pay the rates) and several classes above them. We cannot go through the facts here given in detail, but, as a "contrast" to what we have just extracted, we will give, from the other end of the book, the author's account of what has become of one charity which was once unquestionably the right of these very poor people whose condition we have hinted at.

"Formerly, on the spot at present occupied by St. Katharine's Docks were some alms-houses, with a dwelling for a warder or porter, and a school for poor boys. The neighbourhood at the time was of the most wretched and demoralized description, and the property about it almost valueless, for which reason, as well as its convenient position, it was chosen as the site for the present St. Katharine's Docks. Existing interests, however, had to be bought out, and among these the Hospital of St. Katharine. This saint, like a good many others in the City, appears to have been an excellent hand at a bargain, and for this wretched property her trustees obtained from the Dock Company the enormous sum of £160,000. The question now arose, what was to be done with the funds? and the Lord Chancellor was requested to suggest a plan. He found but little difficulty in the matter. Considering that the inhabitants of Wapping and the London Docks were in a very demoralized condition, hardly suitable to be *protégés* of so celebrated a saint as St. Katharine (who, by the way, had been content with the locality for some six hundred years), he resolved to remove the institution into a more pious district, and at last selected one in the neighbourhood of the Regent's-park. Here some twelve houses were built, to be inhabited gratuitously by decayed ladies and gentlemen of quality, while the senior poor man, or beadle, or warden, or whatever he may be called, had a handsome house erected for his occupation. The present income of this charity is about £12,000 a year. The pensioners, apart from the incomes they receive, generally let out their houses ready furnished and even occasionally the very seats in the chapel; while the warden, the Hon. William Ashley, till very lately had, including the value of his house, which he did not live in, but let off, the equivalent of some £2,000 a year to see that the others made themselves comfortable.

Will anyone come forward to defend the present management of Christ's Hospital (the Blue Coat School)? It was established, says Stowe, "to take the chylde out of the strete, which was the seed and increase of beggary, by reason of ydle bringing up. And to nouryshe the saide chylde in some goode learning, and exercise profitable to the common weal." Every one knows that now that school is practically open only for boys whose parents have some position or influence. It has an income of £70,000 a year. That income belongs as justly to the poor of London as Woburn Abbey belongs to the Duke of Bedford. What conclusion can we come to from such facts as these?

With regard to the metropolitan hospitals, the author shows that at least two—St. Thomas's and St. Bartholomew's—are the rightful property of the poor, and, with regard to the wild expenditure of money in the former, he is justly severe. The new hospital removed from the Borough to the Albert Embankment has cost little, if any, less than half a million of money. It contains 600 beds, thus making the cost of each bed eight hundred pounds! In contrast with this, a little hospital for seamen near Victoria Docks (certainly not an inefficient one) is mentioned, where each bed cost £30.

The statements brought forward in this book are of great importance, and well worth the attention of London ratepayers. We have only culled one or two out of an abundance, and the writer himself has only skimmed the surface of the deep sea of City abuses. Strangely enough, the increase in value of London property has, as a rule, benefited only that class that has never done anything whatever to promote the prosperity of London. While the artizans, traders, and merchants who have made this city what it is have almost invariably suffered by the advance in value of the property where they exercise their skill. Where this has happened in fair succession, there is perhaps no ground for complaint; but it is high time that some very decisive steps were taken to prevent the further continuance of such manifest perversion of funds left in trust for the poor which every one knows to exist, and some of which are sharply indicated in this collection of "Contrasts."

ELECTRIC SCIENCE.*

All experimental sciences pass through certain stages before they become fully realized by the mind of man, and therefore before they can be applied to practical work in the most advantageous form. In the first instance, a number of isolated facts are ascertained, and are able to be reproduced with more or less certainty, according to the knowledge of the conditions requisite for their repetition. These results point to a set of laws, which, when classified and strung together by some fundamental idea, form a theory, rough and unwieldy at first, and then, by dint of repeated investigation by different minds, refined and compact. From theory, and often before it has greatly advanced, applications to uses are made, and these again react upon theory, and conduce more to its perfection. The most perfect idea of a science that can be at present realized is that presented by the exact sciences (mathematics, in its various forms), and other sciences can only advance to their final development and most extensive use by being allied in the most perfect manner with kindred ones, and by having their various results crowned with dignity and truth, by the application of the laws of number and magnitude to them. Electricity is no exception to this law of development, but, being the youngest of the sisters that form the experimental sciences, her powers have been the latest to be appreciated.

These points are forced upon the mind of the reader of the work named at the foot of this page. The electricity of thirty years ago was more experimental and less exact than it is now, simply because its chemical results were then most in practice, and they did not call forth any fair degree of numerical measurement for their accomplishment. Telegraphy, in its details of batteries, instruments, circuits, and test apparatus, has been the means of directing attention to the definite measurement of electric force; and it is truly said by Professor Jenkin that the science known to practical telegraphists is far more scientific than the science of the text books.

This text book is remarkable, because it does not follow the course ordinarily adopted by text books. It does not begin with simple experiments, and gradually build up the science by successive descriptions of phenomena that are more and more complex, but to begin with, it gives a general synthetical view of the science upon the most modern basis, in which the main phenomena are described and the terms employed explained. Although severely correct in facts and laws, its author confesses that the book falls very far short of the ideal he had conceived. Nevertheless, this addition to the scientific man's library is a real boon, from its originality and its practical character. The chief points are, that it has a provisional theory, that mathematical science is applied by means of units of electric magnitude to measure the various developments of electric force, and that telegraphic work is used to explain and illustrate the subject almost to the exclusion of any other kind of electric work.

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* *Electricity and Magnetism.* By Fleming Jenkin, F.R.S., L. and E., M.I.C.E., Professor of Engineering in the University of Edinburgh. London: Longmans.

Those who intend to derive benefit from the treatment of the subject by Professor Jenkin must not only be prepared to give up any preconceived notions they may have respecting the "quantity" and "intensity" of the old school of electric science, but they must be prepared to begin at the beginning of the book with their minds as free to receive new impressions as a sheet of blank paper, and be especially careful not to import any irrelevant matter from their own minds into the ideas they derive from the text. Electrical phenomena are treated as due to the presence or absence of a single fluid, and it abundantly appears from the context that the word fluid, in the author's sense, is directly derived from the Latin verb *fluĕre*, to flow, without reference to what it is that flows, and does not involve any material substance in the conception of electric force which he wishes his readers to realize. Volta's contact theory, also, with reservations, is made to connect the phenomena of Franklinic, or statical electricity, with those of galvanic electricity. Magnetism is at once dealt with as a polar force. In the connection of electric force with heat, conservation of energy is recognized, but the transformation of electric force into chemical force is barely hinted at, chemical results being regarded as secondary phenomena in this work. Tables and diagrams are much used, and much useful and thorough elucidation is given, by the frequent employment of curves, of variations of value, described by Descarte's system of rectangular co-ordinates.

Owing to the exalted aims of the author, definitions, in the strict sense of the word, there are none; but explanations stand in their place, and they serve to impress the mind with definite ideas, although the language in which they are written is far from logical, involving as it does a previous knowledge of the subject defined, or rather explained. Much of this peculiarity has arisen from the carefulness of the author not to tie himself down to dogmatic statements, and thus to commit himself. He evidently views theories as anything but final, and simply as stepping-stones, to be respected, but leading to higher modes of thought. The definition of electricity starts from the attractions and repulsions exhibited by glass and resin, when rubbed. *Electricity* is the *agent* producing the condition respectively of the glass and resin. The agent is, although not necessarily a fluid, taken to be a single fluid, in so far that the names employed in this treatise are chiefly those which have been suggested to men of science by thinking of electrical phenomena as due to the presence or absence of a single fluid. It will be seen, on examination, that this definition implies a state of matter, rather than a force active by the motion of particles; it then becomes a question as to whether a given state or condition of matter is not always the result of a specific motion of particles.

The objects aimed at by the author in this book are so comprehensive and so useful, involving as they do the application of mathematical science to the results afforded by electric force, and their practical exemplification in the subjects to which the author has contributed much, namely, thermo-electricity and telegraphy, that electro-chemistry and its practical development, electro-deposition, may be looked upon as out of the pale of the author's programme, and therefore the sparse treatment of that portion of the subject may be excused, as well as the want of exact typography in which he announces certain electro-chemical changes in the galvanic batteries which he describes.

In respect to magneto-electric machines, doubtless Gramme's machine will be noticed in a future edition; for although this admirable machine was described in 1870, its powers and attributes have only lately become fully known.

It would be well for all sciences and their text books if the method of treatment followed in this book were extended to them. In general, for some time past, the text books of science have been merely compilations of the old and effete matter in previous books; but the plan of the book now under consideration shows that the true advance of science must depend on the originality and out-spoken character of its text books.

GEOLOGY MADE EASY.*

As an introduction to the study of geology, Mr. Taylor's Geological Stories may be recommended as trustworthy narratives. A beginner can hardly read them without getting fixed in his mind some of the startling truths which the study of this wonderful science has evolved in regard to the biography of our planet. The author presents in chronological order a series of imaginary autobiographies, each illustrative of a geological period. Thus, for example, a piece of granite is made to narrate the earliest guessed-at condition of created matter, a piece of quartz follows to sketch the features of the Laurentian epoch, a piece of slate describes the Cambrian, and so on, until the story of a gravel-pit delineates for us the discovery of the flint weapons which have so fully proved the antiquity of man. The plan of presenting these sketches in chronological succession is a useful one; but we cannot imagine any student, [worth making a geologist of, being attracted to the science by the slight dramatic device employed by the author. The stories would have been more interesting and more likely to instruct if they had been written in descriptive instead of in autobiographical form. That the author writes much more clearly when he disencumbers himself from this fictitious nonsense is evidenced by his last chapter, in which a summary of the preceding ones is presented. We do not frequently travel far beyond our own boundary lines; but as it is not difficult to select from the book before us an interesting passage of geological history, we shall take this opportunity of reproducing the author's account of the climatic changes of England. It occurs in the Story of a Boulder :—

> "As many of my hearers are aware, the earlier part of the Tertiary period was, in England and elsewhere, marked by an almost tropical climate. During the Eocene epoch, the seas of our latitude were inhabited by shells and fish of tropical types. The dry land was clothed with tree ferns, palms, &c., and these gorgeous forests were frequented by huge serpents, strange-looking, tapir-like quadrupeds, and monkeys. The rivers, also, had their alligators and crocodiles. In short, all the types of land, fresh water, and marine fauna and flora, which now distinguish equatorial regions, existed in England. The rocks of this period are full of proofs of the truth of what I say Then gradually succeeded the Miocene epoch, during which the climature was less torrid. Even then, the great Arctic ice-cap had not been formed at the pole; for we have abundant evidence that countries situated far north, such as Greenland and Spitzbergen, were covered with vegetable forms nearly allied to those now living in South Carolina, Japan, the Cape of Good Hope, and Australia. Then succeeded the Pliocene age, whose climate is abundantly indicated by its fine "crags," as the beds of shells are termed. The oldest of these is called the "Coralline," and there may be found in it no fewer than twenty-seven species of shells, nearly allied to or identical with those now existing in southern latitudes. The "Red Crag" comes next in age, and this tells you by similar evidence that the climate was gradually getting colder, for the number of southern shells had dwindled to thirteen, whilst there had appeared in English latitudes species allied to those now living in northern seas. Finally, the third, or 'Norwich Crag,' supplements the teachings of its relatives by its total absence of southern shells, and its much greater proportion of Arctic species. Another bed of crag, situated some height above this, still further corroborates the remarkable fact I have been narrating, for its greater abundance of northern forms is as remarkable as that of the older Norwich Crag over the red. About the same age as the latter bed is a phenomenon, known as the 'Forest bed,' which crops out from beneath the steep cliffs along the Norfolk and Suffolk coasts. It is the site of an old forest, now forming the floor of the German Ocean, and the imbedded stools of trees, as well as those of land and fresh-water plants, indicate a temperate mildness of climate, similar to that now marking the British islands, or, if anything, a trifle colder, as the presence of the Scotch fir and Norway spruce pine clearly shows.
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> "After the epoch of the 'Crags,' a gradual subsidence of England, at least as far south as what is now the Thames, slowly took place. Little by little the whole country sunk beneath the sea, in which, with increasing depth, there came increased Arctic cold. The greater part of Scotland —certainly the whole of the Highlands—was covered with land-ice, or sheets of accumulated snow, frozen into ice. The snow-line—which in England is now some thousands of feet above the ocean-level—then was gradually lowered by the greater cold until it was met with as low as it could possibly creep. The hills of North Wales, Cumberland, Lancashire, and other places also had their ice-sheets and glaciers. To what thickness this great ice-mass accumulated, or from what cause, I can form no idea: but if it was anything like what now takes place in Greenland—and I have every reason for asserting that England at the time of which I am speaking, experienced Greenlandic circumstances, rather than those of any other part of the world—then this sheet of snow or ice possibly grew to be hundreds, if not thousands, of feet in thickness. Such is the case in Greenland at the present time. The fine snow there accumulates on the mountain-tops, and is only got rid of by its freezing into a sheet, which is always moving down to the lowest level. In temperate and tropical climates, rivers carry off the excess of moisture—in Arctic countries this can only be done by the moving ice sheets, termed 'glaciers.' The Greenland glaciers debouch into the sea itself. The ice-sheet forms grand sea-cliffs, hundreds of feet high, into whose bases the angry sea eats caverns, until the toppling mass falls over, and floats away as an iceberg. Or the great ice-sheet thrusts itself right into the sea, creeping along its bottom until it comes to water deep enough to buoy up, break off, and float away the extreme end."

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* *Geological Stories.* By J. E. TAYLOR, F.G.S. London: Hardwicke.

ON CERTAIN UNSUSPECTED CAUSES OF FIRE.

Dr. Attfield has recently published, in a pamphlet, four letters, written by himself to the *Times*, on the subject of fires, and has added to them an appendix, in which he shows the danger which exists, and is not much recognized, of spontaneous combustion resulting from the drying of animal and vegetable oils, or of fabrics oiled with these. The letters to the *Times* chiefly relate to the dangers involved in the use of mineral oils; but there is also a short but important warning in one of them, referring to the fixing of gas stoves. The writer remarks that it is usual in fixing gas stoves to cover adjacent wood-work with a sheet of iron. If the iron were raised by little knobs or bars, so as to insure a layer of air, this precaution would be a sensible one; but the plan of fixing a simple sheet of iron to the wood-work, simply diffuses the heat and renders the boards below, in time, as inflammable as touchwood. Fires are reported to have originated from this cause.

But we wish to refer more particularly to the remarks made in reference to the drying of animal and vegetable oils. Dr. Attfield points out that these differ from mineral oils in relation to combustion, by not catching fire at low temperatures, and in not affording vapour that gives with certain proportions of air a mixture which explodes on the approach of flame. But they possess one property of danger from which mineral oils are free—namely, that of being liable to spontaneous ignition when freely exposed to air on the surface of a quantity of wool, cloth, paper, cotton, jute, sawdust, lampblack, ivory-black, ground charcoal, or any similar highly porous substance.

The process of drying which these oils undergo is not similar to the drying of a wet cloth, where the water simply evaporates, nor to the drying of a varnish, in which case it is the spirit that gradually passes into vapour. The drying of oils, on the contrary, is more analogous to the process of combustion, as it is an absorption of oxygen from the atmosphere, the result being the formation of a solid resin. This absorption of oxygen is accompanied with an elevation of temperature, in some cases very considerable. "As a result of direct experiment," Dr. Attfield writes, "I find that paper, cotton, or wool, slightly impregnated with different kinds of oil and exposed to air under similar conditions, rises in temperature from 25 to 200 degrees, according to the variety of oil, the amount of surface in contact with the air, and the duration of exposure." These experiments undoubtedly support the author's conclusion, that in cases where heaps of oiled fabrics are left to oxidize, spontaneous combustion may, and sometimes does, occur.

Literary Notes.

A new journal, with the title of "Public Health," came forth with May, and proposes to take notice of all subjects relating to sanitary science.

The National Chamber of Trade has commenced the publication of a monthly circular, price one penny, the object being to report their own proceedings, and to agitate such questions as may fall within the programme of the Chamber.

That untiring homœopathist, Dr. Ruddock, has lately sent forth a volume on the "Homœopathic Treatment of Infants and Children." It is uniform with the "Lady's Manual of Homœopathic Treatment" by the same author which we reviewed about a year ago. The medical treatment recommended by Dr. Ruddock is of course in harmony with the system he professes. Respecting that we have nothing to say. But the greater part of the book is taken up with remarks on the diet, and hints and instructions as to the management of children in the ailments to which they are subject, which indicate sound judgment, and which should be known to all heads of families.

Outlines of Physiological Chemistry. By C. H. Ralfe, M.A., M.B. London: H. K. Lewis.

The special features noticeable in this small but very useful volume are the accuracy of its chemical information, and the practical *workmanlike* manner in which this is applied to physiological analysis. The author presupposes a fair knowledge of chemistry, but in an introductory chapter he recalls to mind very simply and clearly such parts of the science as it is important particularly to remember, using the typical formula of Gerhardt as his framework. Then follow classifications of the various tissues, fluids, and secretions of the body, with such chemical instructions as are requisite for the physiological laboratory.

A *Manual of Metallurgy.* By George Hogarth Makins, M.R.C.S., F.C.S. Second edition. London: Ellis and White, 29, New Bond-street.

In this second edition of a work which had already obtained a high position for its thorough and practical character, we have the metallurgic arts laid before us as modern science has improved them. Mr. Makins, in a moderate-sized volume, brings before us most admirable descriptions of metallurgic processes by no means contracted, and useful alike to the worker in metals, the student, and the scientific man. The author writes with authority on such subjects as gold and silver, in consequence of his experience as assayer to the Bank of England, but as far as we have examined his work we do not find other sections less accurate or detailed. We hope to take an early opportunity of quoting one of the interesting descriptions of processes which Mr. Makins here gives. In addition to the chapters treating of special metals, and the processes adopted in producing and working them, there are sections in which the general properties of metals, their combinations with the non-metallic elements, alloys, apparatus, and the principles of electro-metallurgy are treated. With regard to crucibles, a subject often of some importance to the chemist, the author explains how to test them, and he mentions as of especially excellent quality, the pots of Messrs. Ruel and of the Patent Plumbago Crucible Company. The illustrations in this manual are as a rule well executed, but they might, we think, have been rather more numerous with advantage.

Trade Memoranda.

Mr. William Edwards, of Wellington, Salop, has removed from the Market-place to Walker-street, of that town, after carrying on business at the former place for thirty-two years.

Sandell's hair restorer is a new candidate for public favour. It is prepared by Mr. Sandell, of Yeovil, who claims for it that it will certainly restore grey or white hair to its original colour in a few days. It is certainly a pleasant hair-wash to use.

At the Derbyshire Quarter Session of the Peace lately, on the recommendation of the Finance Committee, Mr. Wentworth L. Scott, of London and Wolverhampton, was appointed county analyst under the Adulteration of Food, etc., Act, 1872. Eight candidates applied for the office.

We have been requested to mention that the lamented death of Baron Liebig will in no way affect the manufacture of the Liebig Company's Extract of Meat. The control and analysis exercised hitherto by Baron Liebig and his delegate, Professor Max von Pottenkofer, will in future be carried out by Professor Max von Pettenkofer, and Hermann von Liebig, son of Baron Liebig, who has acted hitherto as special assistant to his father in the control and analysis of the Liebig Company's Extract.

Most of our readers know Mr. Fenning's (of Cowes) "Every Mother's Book," which is invariably popular among ladies with families. We are not advocates for reckless distribution of medical scraps among the population generally, but this pamphlet contains nothing but what mothers should know, and far from objecting to its circulation, we would like to see it extended. It is perhaps unnecessary to add that Mr. Fenning takes advantage of the opportunity afforded him in this little book to speak a good word for his cooling powders.

In our advertising pages it will be noticed that several of the chief manufacturers of composition for dipping sheep and lambs call attention to their products. This is the time of year to placard that subject.

Messrs. Lawrence and Co., of 485, Oxford-street, have shown us a large number of really genuine testimonials to the efficacy of their speciality, "Brodie's Miraculous Cure for Corns." These are convincing that the article possesses real merit, and as Messrs. Lawrence are pushing it energetically, we doubt not that it will be a useful article for those chemists to add to their stock, who have not already done so.

The *Jane Richardson*, from Montserrat, arrived in the Mersey on the 3rd inst. Besides a quantity of sugar, essences, and fruit, she had on board 87 hhds. of concentrated limejuice and 298 pipes of lime-fruit juice, containing over 30,000 gallons, from the Olveston plantations in the Island of Montserrat, cultivated and collected by the Sturges Montserrat Company (Limited). The concentrated juice is consigned to the chemical firm in Birmingham for the manufacture of citric acid; the lime-fruit juice to the sole consignees, Messrs. Evans, Sons, and Co., Liverpool.

Mr. Mather has only lately opened his new warehouse in Corporation-street, Manchester, and now he has just finished and opened a large and handsome new factory in Dyer-street, Hulme, which takes the place of his premises at Trentham-street, the latter having been taken by the Cheshire Lines Company. This new factory is well arranged, and fitted with the requisite machinery and steam power for the manufacture of his well-known specialities.

N.B.—The following names are collected from the *London Gazette* for the past *two* months.

BANKRUPTS.

Barnes, Jos. K., chemistry master, Tettenhall, Stafford.

Clough, Wm. H., innkeeper, Middlesborough, (late chemical manufacturer).

Crosse, T. H. B., surgeon, 146, Holland-road, Kensington.

ARRANGEMENTS OR COMPOSITIONS IN LIQUIDATION.

Notices of first general meetings of creditors have been issued *re* the estates of the undernamed:—

Bartlett, William, Goldhawk-road, Shepherd's-bush, and Wilton-place, Belgravia, dentist.

Bate, Henry, 87, Queen's-road, Surrey, surgeon.

Bland, Alfred, Speenhamland, Berks, veterinary surgeon.

Cooke, Charles Samuel, Longfleet, Poole, chemist.

Dawson, Alfred, 18, Old Fish-street, chemist.

Druay, Rupert A. O'Brien, Dover, surgeon-dentist.

Foster, George Edward, Newbury, chemist.

Geyelin, G. K., inventor of beef bouillon, etc., Belgrave House, Argyle-square, London.

Hedley, John Heslop, Hoxham, Northumberland, chemist.

Hughes, Hubert, Bridge-street, Bridgnorth, chemist and grocer.

Inkley, Jesse, Holbeach, Lincolnshire, chemist.

Mason, John, 32, Elizabeth-street, Eaton-square, veterinary surgeon.

Pickles, George William, Leeds, chemist.

Riches, William James, Lowestoft, Suffolk, chemist.

Ridley, Henry, Hockley, Birmingham, chemist.

Roberts, John Church, Yoxall, late Hamstall Ridware, druggist.

Ruckley, Henry Robinson, Walton, Suffolk, surgeon.

Shaw, Edward Thomas, 8, Wellington-street, Islington, surgeon.

Stockings, A., chemist and druggist, St. Stephen's-street, Norwich.

Smith, P. H., druggist, etc., Gursall, Staffordshire.

Whiskin, Edward Charles, Welshpool, Montgomeryshire, veterinary surgeon.

PARTNERSHIPS DISSOLVED.

Alford, H. and H. J., Taunton, surgeons. Mar. 24.

Bain and **Little**, Brunswick-street, Blackwall, and East India-road, surgeons. Mar. 31.

Baldwin and **Nelson**, Carey-street, Lower Broughton, Manchester manufacturing chemists and vinegar manufacturers. Feb. 5.

Barber, W. L. and Co., Basinghall-buildings, Leeds, wholesale druggists and drysalters. Jan. 1. Debts by G. Pickles.

Buszard and **Fagoe**, Lutterworth, Leicester, surgeons. Mar. 4. Debts by James Driver, Lutterworth, accountant.

Clement, Brookes, and **Snow**, Shrewsbury, surgeons. Feb. 18, as regards H. L. Snow. Debts by A. G. Brookes.

Concentrated Pure Malt Vinegar Company, 115, Cannon-street, London, and 148, Bermondsey-street, Southwark. Jan. 1. Debts by H. Allnutt.

Fraser, Charles and Co., Largs, pharmaceutical chemists. April 25. Debts by Alexander Fraser, who continues the business.

Harding, Hewer, and **Calthrop**, Highbury, surgeons. Dec 27, as regards John Fosso Harding.

Hassall and **Anderson**, Richmond, Surrey, surgeons. Feb. 28.

Patman and **Spencer**, White Lion-street, Norwich, chemists. April 1.

Reid and **Sprakeling**, Bootle, near Liverpool, surgeons. Dec. 31. Debts by Robert John Sprakeling.

Rowe and **Heron**, Margate, surgeons. Mar. 31. Debts by Thomas Smith Rowe.

Southworth and **Sharples**, Farnworth, near Bolton, chemical manufacturers. Mar. 25. Debts by John Sharples.

Thornton, Hunter, and **Treves**, Margate, surgeons. Mar. 31. As regards William Frith Hunter.

Urquhart, J. and J., Aberdeen, druggists. Dec. 28, 1871. Debts by James Urquhart, who has continued the business.

West Quarter Chemical Company, West Quarter, Stirling, manufacturing chemists. Feb. 28. The business continued by George M'Roberts, and Alfred Nobel.

DECLARATIONS OF DIVIDENDS.

Bennet, William Ford, Emsworth, Hants, surgeon. Of 3/0, at William H. Herington's, 45, St. Thomas's-street, Portsmouth, any Thursday between 10 and 4.

Gibb, David, physician and surgeon, Calderbank. First and final, at Barr and Carstair's, 21, Renfield-street, Glasgow.

Hirst, Edmund, Alfred Greenwood, and **David Firth**, trading as **Hirst** and Co. (Liq.), Clayton, manufacturing chemists. 2nd and final div 2d. any Saturday; W. Sutcliffe, Clayton.

West, Maurice Thomas, Woolwich, surgeon H.M. Navy, 3rd div. 4/11¾. P. Paget, Bankruptcy-court, Basinghall-street.

LEGAL & MAGISTERIAL.

THE ORIGINAL CHLORODYNE.—BROWNE *v.* FREEMAN.

Before the Lord Chancellor, for the Master of the Rolls, at the Court of Chancery, April 28.

THIS was a bill filed by Dr. Collis Browne for an injunction to restrain the defendant, a chemist in the Kennington-road, from issuing certain advertisements and publishing certain testimonials in support of his assertion that his, and not Dr. Collis Browne's, is the original and only genuine chlorodyne. It was the third suit between the parties. The plaintiff began to supply the public with chlorodyne in 1855, having invented it, as he stated, in 1846, and used it with success in his practice in the East. The first bill was filed in May, 1862, to restrain the defendant from using the name of chlorodyne as descriptive of a medicine prepared by himself; but on the defendant putting in an answer, claiming to have discovered his preparation in 1844, and denying that he had ever advertised it, except as Freeman's chlorodyne, the plaintiff dismissed his bill. The second bill was filed in December, 1862, to restrain the defendant from advertising his own preparation as "the original chlorodyne, manufactured by the inventor, Richard Freeman." On the 11th of January, 1864, Vice-Chancellor Wood dismissed this bill on the ground that, as far as the name of chlorodyne went, the plaintiff had, by acquiescence in the use of it by other persons, lost the right to treat it as his own trade mark, and that the defendant had not actually represented that his chlorodyne was of the manufacture of the plaintiff; but as his Honour disapproved the course pursued by the defendant, he dismissed the bill without costs. There was no appeal from this decision. The rivalry between the parties was not decreased by this decision, for in December, 1871, the present or third suit was brought in consequence of some advertisements issued by the defendant, one of which was as follows:—"The original chlorodyne and only genuine invented by Richard Freeman, pharmacist, entitled by the decision of Vice-Chancellor Sir W. Page Wood, January 11, 1862, to the sole right to use the word 'original' as a prefix to 'chlorodyne,' which decision was confirmed July 12, 1864." The plaintiff also complained of the defendant's representing that genuine chlorodyne is only sold under the protection of Government authority, with a stamp bearing the words "Freeman's Original Chlorodyne," and that without such stamp no chlorodyne is genuine; and that several testimonials to the efficacy of chlorodyne as a remedy for various disorders which were really given in favour of the plaintiff had been appropriated by the defendant and printed on the wrappers of his bottles.

Sir Richard Baggallay, Q.C., Mr. Fisher, Q.C., and Mr. B. B. Rogers appeared for the plaintiff; Mr. Southgate, Q.C., and Mr. Stirling for the defendant.

The Lord Chancellor, stopping Mr. Southgate, said the advertising had gone on since 1864, and the plaintiff had lost by his acquiescence any right he might formerly have had to ask the Court whether the defendant's misrepresentation of the decree of Vice-Chancellor Wood did not amount to contempt of Court. It appeared to him that the suit was virtually concluded by the decision in the former suit that the plaintiff had not an exclusive right to the use of the word chlorodyne. The defendant's calling his preparation the original did not, as the Vice-Chancellor thought, amount to a representation that his preparation was in fact the manufacture of the plaintiff; and the words "only genuine," which were the only new feature in the present suit, merely involved a slander of the plaintiff's property, which might or might not be actionable; but, if actionable, would not be so as a mere trade assertion that one man's article is better than another's. Nor could his Lordship see any ground of complaint as regards the testimonials used by the defendant. He should, therefore, dismiss the bill. He might be impressed in the same way as the Vice-Chancellor was with regard to the conduct of the defendant, but he could not approve the course pursued by the plaintiff of filing another bill after the point had been substantially decided against him; so that the bill would be dismissed with costs.

FULLWOOD *v.* FULLWOOD.

Before Vice-Chancellor Sir R. MALINS, *Vice-Chancellors' Court, Lincoln's Inn, May* 5.

This was a motion to restrain the defendant from selling annatto in bottles bearing labels similar to the plaintiff's. The plaintiff, Richard Jackson Fullwood, of 24, Somerset-place, Hoxton, is a manufacturer of annatto. His trade mark was a stag with an olive branch, and his bottles were of different sizes, bearing labels of a bright red colour, having under the trade mark the title "To Farmers and Dairymen. R. J. Fullwood and Co's. Highly Approved Fluid Extract of Annatto for Colouring Cheese and Butter." The defendant, Henry Fullwood, is a nephew of the plaintiff, and a manufacturer of annatto under the firm of "Henry Fullwood and Co." The plaintiff alleged that the defendant, who had formerly carried on his business at Kingsland, had recently removed to No. 1, Somerset-place, Hoxton, a few doors from the plaintiff's premises, and had adopted labels and bottles similar to his. The defendant's labels bore at the top the device of the Royal Arms, and the following title:—"For Colouring Cheese and Butter. H. Fullwood and Co.'s Concentrated Liquid Extract of Annatto for Farmers and Dairymen." The plaintiff accordingly now moved for an injunction as above mentioned. Mr. Higgins, Q.C., and Mr. W. F. Robinson appeared for the plaintiff; and Mr. Glasse, Q.C., and Mr. T. L. Wilkinson for the defendant.—The Vice-Chancellor said that the Fullwood family had, it appeared, been annatto manufacturers since the year 1785. The defendant had in 1870 set up business in Kingsland. When he began business he called himself "H. Fullwood and Co.," the object of which, if it was a right object, was not altogether clear. When a man starting a business by himself added "and Company" to his name when he intended to trade alone, his so doing was a badge, to say the least, of unfairness. It was not quite a proper thing to do. The defendant's whole conduct showed a desire to become known as connected with the plaintiff's old-established firm of "Fullwood and Co." To complete the matter, in the spring of 1872 the defendant moved into the very street in which the plaintiff carried on his business. What could have induced him to select this small insignificant street of all others in this thickly-populated neighbourhood? There was no shadow of a doubt that his object was to become known as Fullwood and Co., of Somerset-place. The public would not notice the difference between No. 1 and No. 24. His conduct was unfair and fraudulent, and such as the Court could not allow. It was opposed to every rule and principle upon which the Court acted in such cases. If the defendant had kept away from Somerset-place he might have carried on his business with impunity. But his Honour was satisfied that when the defendant removed his business into this street, so close to his uncle, he did so with the hope that the public might be led to confound the two businesses, and to further his object he had adopted bottles of the same shape as those used by his uncle, and labels very similar in appearance. Therefore, under all the circumstances of the case, he was of opinion that the plaintiff was entitled to an injunction. Although it had been argued that the bill had not been filed for a year after the commencement of the matters complained of, and that therefore the plaintiff was too late, yet it seemed to him that the circumstances of the case were such that the plaintiff could not be held to be bound by acquiescence.

THE ADULTERATION OF DRUGS.

William Henry Rowland, chemist, No. 195, Vauxhall-road, May 7th, 1873, was summoned before the Liverpool magistrates for selling adulterated quinine. Mr. Atkinson appeared for the prosecution, and Mr. Murphy defended. Inspector Robinson stated that on the 28th March he visited defendant's shop and asked for twenty grains of the purest quinine. The defendant, who was behind the counter, said he kept nothing but the best articles and gave witness a packet labelled "Quinine Sulphate," for which he paid a shilling. Witness then told defendant that he was going to take it to the public analyst, and defendant said he could not get a living by selling quinine, and that the article he had given him was quinidine, the second extract from the red Peruvian bark. Dr. Brown, the public analyst, stated that the article in the packet contained a considerable portion of an alkaloid of bark, which was not quinine at all, though it might, as defendant had stated, probably be quinidine. This article would not be injurious to the consumer, but it would increase the bulk and decrease the value of the real article. For the defence it was pleaded that what defendant had sold was not detrimental to health, but was simply a mild tonic. Mr. Aspinall suggested that, instead of only one person being summoned, the inspector should have visited half-a-dozen shops in various parts of the town, where they would probably have found matters much the same. Mr. Atkinson said eight shops had been visited, and the present case was the only one in which adulteration was found. Mr. Aspinall said it was gratifying to find that such was the case. A fine of 10s. and 9s. 6d. costs was imposed.

MATRIMONIAL BLISS.

In the Divorce Court, on April 30th, the case of Butterworth *v.* Butterworth was tried. The respondent was a chemist and druggist at Elsecar, near Barnsley, and had married the petitioner on November 6th, 1868, having previously seduced her. According to the petitioner's evidence she had never lived with him after the marriage, except on one night in January, 1871. After the marriage she had one child. When he told her to go home, he told her that she must stay there until such time as he could afford to have her at his place. He was a chemist and druggist, and seemed to be doing a good business. After this she often applied to her husband to allow her to live with him, and he refused to do so, and said she might do as she liked and he would do the same. Witness was always anxious to live with him. He made her an allowance of 10s. per week, but discontinued it in September, 1871. At first he promised to allow her more, but never did so. Witness had to keep the child. In January, 1871, witness was going to see a friend, when she passed her husband's shop. He called out that he wanted her. She asked him what he wanted with her, and he wanted her to go to a private place with him. She refused, saying that she would not have anything to do with him until he acknowledged her as a wife and took her to his home. On another occasion he was coming in the direction of witness's brother's when she met him, and he asked her to go home with him. She refused unless she was to live with him entirely. He promised that she should, and she went to his house and slept with him. He wanted her to get up at five o'clock in the morning, but she refused, stating that it was too early. In an hour's time he again asked her to get up, as he was desirous that she should help him with some writing. She then got up, and the respondent, when he came down stairs, went into the shop. She asked him to come into the house, but he refused, and asked her to come into the shop. She acceded to his request, and he opened the door and pushed her out. Since that period her husband had never allowed her to go into the house.

The respondent was also charged with adultery with a servant named Glossop. He denied the charges, but Sir James Hannen said he was satisfied with the evidence of desertion and adultery, and would grant a decree *nisi* for a dissolution of the marriage, and with costs.

Decree *nisi* accordingly.

CHEMICAL EVIDENCE.

At the Birmingham County-court, on April 8th and 10th, an action was tried respecting the death of some pigs, which it was alleged had been poisoned by some adulterant in the pea-meal supplied by the defendant. The plaintiff was Wm. Matthews, a schoolmaster, at Gravelly-hill, and the defendant, Thomas Harrison, was a corn dealer in Birmingham. Last December, the plaintiff bought from the defendant some pea-meal with which to feed his pigs, and apparently, as a consequence, fifteen of them died. He claimed £30 value of the pigs, and £5 expenses. His chief witness was Dr. Alfred Hill, Borough, analyst. This witness gave evidence that the pea-meal contained 4·59 per cent. of sand. He had found no poison. Had only looked for strychnine. Most of the vegetable poisons could not be detected. Mineral poisons could be readily discovered and some vegetable poisons. In cross-examination, Dr. Hill admitted that apart from the sand he should regard the meal as good, but it was perfectly possible that it might contain a sufficient quantity of poison to kill pigs without his being able as a chemist to detect it. He considered he was justified in saying that the death was occasioned by poison. Knew that pigs were in the habit of eating grit, &c. Should think it not beneficial diet. In re-examination, the witness said he considered anything that would cause death by violent means should be called a poison. For the defence, it was proved by the millers that what they ground for the defendant was peas and Indian corn, in the proportion of two bags of the former to one of the latter. It was maintained that the inflammation had been caused by giving the pigs the meal mixed with cold water instead of hot. Mr. Alfred Bird had analyzed the meal and found in it 3·01 per cent. of sand. Mr. Wentworth L. Scott, of Wolverhampton, had tested the meal chemically and microscopically. Found the proportion of sand to be 3·8 per cent. Considered it by no means an unusual quantity. Had examined several hundred samples of foreign wheat, peas, &c., for government, and in some cases had found sand to the extent of thirteen or fourteen per cent. This witness had also experimented with this meal on rabbits, and detailed the results. Three fed with meal which had been scalded increased considerably in weight, while two fed with the meal mixed with cold water died in a few hours with evident signs of distress. Did not agree with Dr. Hill that it was impossible to detect vegetable poisons. Could certainly detect the presence of any ordinary mineral or vegetable poison, or the presence of any kind of poison without defining it by name. Dr. Edward Mackery, professor of materia medica at Queen's College, supported the evidence of the last witness. Some vegetable poisons, he said, could not be detected chemically, but could most certainly be detected physiologically. The Judge (G. W. Cole, Esq., Q.C.) having commented upon the evidence of the various witnesses, said that, considering the practical evidence which had been brought forward as to the feeding of pigs, and looking to the evidence of Mr. Bird and Mr. Scott, which he thought very important, he came to the conclusion that the meal was good, wholesome, and genuine; and that the death of the pigs was caused by its improper administration. He should therefore decide for the defendant with costs.

SAMPLES AND BULK.

At the Spilsby County Court on March 15, Mr. William Willson, a chemist and druggist at Alford, sued Messrs. Ayres Brothers, seed crushers at Hull, for £6 5s. upon a special contract, whereby defendants agreed to deliver in December last ten tons of pure linseed cake according to sample, at the rate of £10 7s. 6d. per ton, and in two consignments of five tons each. Upon the receipt of the first lot plaintiff compared the sample with the bulk, and found the latter very inferior—in fact, of such a quality that he could not offer it to any of his customers even at a very reduced price; consequently he rejected it. A long correspondence ensued between plaintiff and defendants, who admitted that the cake delivered was not so good as the sample, and tendered £1 as compensation. This plaintiff refused to accept, hence the present action. Plaintiff proved that in consequence of the breach of contract he had to purchase cake of Messrs. Norfolk and Son, of Louth and Grimsby, at an increased price.—Mr. W. O. Parr, of Well, and Mr. Richard Burkett, of Alford, gave evidence as to the inferiority of the cake. —Mr. Mason urged several reasons for a mitigation of damages.—His Honour suggested that 5s. should be deducted from plaintiff's claim, as he did not purchase all the cake of Messrs. Norfolk in December, within which time the contract with defendants was to have been completed.—The jury immediately returned a verdict for £6.

THE ADULTERATED VINEGAR CASE.

John Thomas Hall, chemist and druggist, of Blackburn, was summoned before the magistrates in three cases for adulterating vinegar with hydrochloric acid. It was proved that a mixture supplied by Hall had been administered to a child, who died from its effects. The mother was committed for manslaughter, but the grand jury ignored the bill. It was proved that the mixture contained hydrochloric acid and opium. For the defence it was asserted that the vinegar compounded with the cough mixture was supplied as it was obtained from a firm at Leeds. Two witnesses from that establishment denied that they adulterated vinegar at all, or that they used hydrochloric acid in its manufacture. Defendant was fined £5 and costs in one case, and ordered to pay costs in the other two.

UNINVITED GUESTS.

Hubert Wilce, general dealer, 1, Wellington-street, Strand, was charged at the Guildhall, before Alderman Owden, with being concerned with others not in custody, in breaking into and entering the premises of Messrs. Bourne and Taylor, wholesale druggists' sundriesmen, 25, Castle-street, Holborn, and stealing about £40 worth of respirators, combs silk elastic stockings and silver-top smelling bottles. The evidence showed that on the 14th ult. the prosecutor's premises were broken into, and robbed of the goods above referred to. On the 16th the defendant was found dealing with some of the respirators at Debenham and Storr's auction rooms, in King-street, Covent Garden. Thomas Wolloms, 239, Tottenham-court-road, surgical instrument dealer, stated that he saw the defendant with a number of respirators exhibited for sale on a board in the sale-room of Debenham and Storr, and after he had sold the bulk of them witness bought the remainder, with other articles, at a very low price.—In cross-examination he said that there was no concealment on the part of the defendant, and it was customary for dealers who bought goods at the sale to sell them again in the room. He had known the defendant for years as a dealer.—Fawke, a detective officer, said that on the 24th ult. he went to the defendant's house. In reply to his inquiries he stated that he had bought three dozen respirators and two dozen combs from a man outside Messrs. Debenham and Storr's. He did not know the man, but he knew him by sight, as having attended the above sale-rooms. At his lodgings he found three combs, which Mr. Johnson, the prosecutor's manager, identified, together with the respirators, all marked with Messrs. Bourne and Taylor's name.—Alderman Owden remanded the prisoner, but accepted bail for his appearance; one surety for £100 and himself in £200.

William Hoare, labourer, and Joseph Weltcke, porter, were charged before Alderman Sir Thomas Dakin, with breaking into the premises of Mr. Eugene Rimmel, perfumer, in Cornhill. On Wednesday evening, at seven o'clock, the shop was locked up by the manager; about 22s. were left in the till. Next morning when the shop was opened, it was found that the till had been ransacked, and that admission had been obtained through the fan-light, the cord of which was cut. Suspicion fell upon Weltcke, who was employed at a luncheon bar at the back of the premises; it was found that he and Hoare had not slept at their homes the night in question, and a detective officer took them in custody. Hoare confessed that between eight and nine o'clock that evening he met Weltcke in Cornhill, and they went together to Mr. Rimmel's shop. Weltcke cut the cord of the fan-light, and he (Hoare) got into the shop, took the money from the till, and helped himself to some bottles of scent. He gave the money to Weltcke, who returned him 8s. or 9s. of it. The Alderman sentenced them each to three months' hard labour.

SUSPECTED ARSON.

Mr. A. G. H. Buckby, of Sutton-on-Trent surgeon, was brought up at the County Sessions, Newark, charged with arson. It appears that Mr. Buckby had some disagreement with a beerhouse-keeper, named Bingham, with reference to some money matters, and he threatened that if his demand were not complied with he would take summary vengeance. The same night the prosecutor was awakened to find his stacks on fire, and the doctor standing a few yards off. The prosecutor seeing no one else, said, "Doctor, you are a d——d rogue, you have fired my stacks." Mr. Buckby replied, "I told you I would fix you," but afterwards denied that he had done so, and struck the prosecutor. The evidence having been supported by two or three witnesses, the prisoner was remanded.

THE PHARMACEUTICAL SOCIETY.

Financial Statement from Jan. 1st to Dec. 31st, 1872.

Dr.		£ s. d.	£ s. d.
Balance in Treasurer's hands, Jan. 1, 1872			758 1 9
Balance in Secretary's hands, Jan. 1, 1872			4 3 6
Life Members' Fund	Fees	47 5 0	
	Interest	88 2 6	
			135 7 6
Government Securities	Interest		343 15 0
Subscriptions:—			
1766 Members, Pharmaceutical Chemists		1854 6 0	
749 ,, Chemists and Druggists		786 9 0	
97 Entrance Fees		203 14 0	
247 Associates in Business		250 7 0	
656 Associates not in Business		344 8 0	
644 Apprentices		338 2 0	
			3736 6 0
Arrears			70 17 6
Fines on Arrears			5 15 0
Laboratory	Fees	946 6 6	
	Breakages	7 1 1	
			953 7 7
Lectures	Fees		193 4 0
Registration Fees:—			
52 Pharmaceutical Chemists, Major Examination		273 0 0	
287 Chemists and Druggists, Minor Examination		904 1 0	
96 ,, ,, ,, Modified Examination		100 16 0	
782 Apprentices, Preliminary Examination		1642 4 0	
784 Examination Fees		823 4 0	
47 Registration Fees as Chemists and Druggists		246 15 0	
7 Jury Certificates		0 7 0	
			3990 7 0
Stationery—Sale of printed matter			19 12 4
Sundries—Sale of tin cases for Diplomas		1 14 0	
Sale of waste paper		0 17 3	
			2 11 3
"Register" Sales			180 10 6
			£10,443 18 11

			£ s. d.	*Cr.* £ s. d.
Advertisements				12 2
Annuities—Dr. Redwood				100 0 0
Carriage				2 17 4
Certificates of Death				10 16 4
Commission—Collecting Subscriptions, etc.				41 17 11
Conversazione			223 17 9	
Pharmaceutical Meetings			25 19 5	
				249 17 2
Examiners, Boards of (England and Scotland)				1004 1 10
Fixtures and Fittings				73 0 0
Furniture				55 14 7
Goverment Securities—Purchase of £2000 New Three per Cents				1836 5 0
Grant to a Provincial Association				10 0 0
House Expenses				69 19 9
Journal—Balance of Account				497 11 5
Laboratory:—				
Director's Salary	£200 0 0			
Percentage on £946 6s. 6d. Fees received during 1872	236 11 6			
		436 11 6		
Demonstrator's Salary, three Quarters to Michaelmas	75 0 0			
Percentage on £377 4s. 9d. Fees received to end of June, 1872	37 14 6			
Demonstrator's Salary, one Quarter to Christmas	30 0 0			
		142 14 6		
Assistant Demonstrator's Salary, three quarters to Michaelmas		60 0 0		
Porter's Wages		91 2 6		
			730 8 6	
Chemicals, etc.			212 5 0	
				942 13 6
Law Costs				187 19 3
Lectures—Professor of Chemistry and Pharmacy			300 0 0	
Professor of Botany and Materia Medica			300 0 0	
Subscription to Botanical Gardens			21 0 0	
Prize Medals, Chemicals, Diagrams, Drawings, etc.			28 9 5	
				649 9 5
Library				78 17 1
Museum—Curator's Salary			108 6 8	
Specimens and Sundries			72 2	
				180 9 0
Expense of the Society in Scotland—Grant for current expenses for 1872				*203 19 0
Postage				234 13 5
"Register," cost of Publication				189 14 0
Repairs and Alterations				575 16 0
Rent, Rates, and Taxes				464 4 7
Repayments (Returned Subscriptions to Associates)				11 0 6
Stationery, Engraving, Printing, and Office Expenses				325 1 1
Salaries—				
Secretary and Registrar			450 0	
Assistant Secretary and Deputy Registrar			200 0 0	
Clerks and Servants			634 3	
				1284 3 8
Sundries:—				
Binding Journals for presentation to Chicago College of Pharmacy			4 1 0	
General			18 1 10	
				22 2 10
Travelling Expenses (Country Members of Council)				317 9 6
Refreshments for Council				22 3 9
Local Secretaries' Expenses				13 9 7
Balance in Treasurer's hands				836 14 3
Balance in Secretary's hands				29 14 8
				£10,443 18 11

* Including £132 9s. 4d., the cost of fitting up new premises for the use of the Examiners, and for the general business of the Society.

EXCHANGE COLUMN.

Revised Terms.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the publisher of the Chemist and Druggist, and all correspondence relating to it must be addressed to "The Publisher of the Chemist and Druggist, Colonial Buildings, Cannon-street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

Surplus Stock, Ceva Flava. Portbury, Devizes.

Few 40 oz. Oil Bottle, tin caps. Portbury, Devizes.

One 2-gallon Steam Copper Still; also Portable Shower Bath. Apply, Wilkinson, 4, Baker's-hill, Sheffield.

Twelve lbs. Potassii Iodid, 20s. per lb.; or offer general goods on Patents. Corner, chemist, West Hartlepool.

Baker and Baker's Tea Show Case, 10s. Maw's Counter Scales and Weights, 16 in. (Fig. 1) 23s. 7/18.

Surplus stock of Methylated Tinctures, in bulk or small quantities. Padwick, Red-hill.

To be Sold a Bargain, a first-class Soda-water Machine, in good condition. 30/17.

Pharmaceutical Journal, loose, from 1869. Buck, Chelmsford.

8 lbs. Pot. Iod. 21s. per lb.; 56 lbs. Finest Turkey Opium, Opium, 23s. 6d. Address to 8/19.

Chapman's Wheat Flour, 38 1-lb. packets, 28 ½-lb. ditto. Lot 15s., clean and new. 7/19.

A ½-inch Microscopic Object Glass, made by Crouch, London, Apply to Dr. Ross, Newry, Ireland.

Three Clendons Tooth Forceps, new. Offers wanted. Payne, Pensnett.

The first five divisions of "Muspratt's Chemistry," published at 10s. 6d. each. Price 35s. 28/18.

"Pharmaceutical Journal," first 23 vols. New, half calf, gilt lettered. Offers wanted. 21/18.

Two Induction Coils, complete. Particulars on application, 20/18.

Fifteen Du Barry's Revalenta, 2s. 9d.; fifteen 1s. 1½d., lot £1 16s.; quite clean. Deggle, Chemist, Heywood.

Mortar and Pestle, both bell metal. Holds 2½ pints. Weight 18 lbs. 9s. 21/21.

Eight Forceps, Leather Case new, 32s. Another, Second-hand, 30s. 6d. Appleton, Attercliffe, Sheffield. (Cheap.)

Fifty gross of Vermin Killer, assorted sizes to be sold 50 per cent. under wholesale price. 25/19,

Exchange: Recipe Excellent Cough Elixir, for Superior Furniture Gloss. G. Briggs, Goole.

Medical Galvanic Machine, in good condition, for health or sickness, well adapted, suitable for invalids. Price 30s. Caunt, Buckley, near Mold.

Superior Black-polished Flat Glass Case, 72 in. by 42 in., lined with blue, on six legs. Lowest Price £4. Taylor, 20, Cross-lane, Salford.

The Glass Cases, Labelled Drawers, Shelving, &c., of a Chemist's Shop. Address, with stamp for particulars, J. W., 250, Langsett-road, Sheffield.

Large Iron Mortar and Pestle on block pedestal, with cover, 12 in. by 15 in. diameter. 24s. Charles Ingamells, Boston.

A 50s. Pulvermacher's Combined Band, only been twice used, as good as new, 28s Chemist and Druggist for 1873, 2s. 6d. Andrews, Chemist, Eastbourne.

A few pounds Extract Jalap, 12s.; also Extract Anthemidis, 4s.; and Gum Galban Colat, 3. 6d. R. H. Aspinall, 1, Leece-street, Liverpool.

Offers wanted for about Six Gross empty 4 oz. Eau de Cologne Bottles. Address "Alpha," 13, Whitefriargate, Hull.

Magneto-Electric Machine, (as Maw's Fig. 6), equal to new. Cost 25s. Offers wanted. James Talbot, Fisherton, Salisbury.

Post Free. "Year Book of Pharmacy," 1871, 3s. 6d.; Smith's "Student's Greek Grammar," 6s.; Smith's "Initia Græca," Part I, 2s. 6d., never used, all quite new. 4/19.

Hydrometer in Case, with Ivory Thermometer in Scale, 12s. 6d.; Weiss' Cupping Apparatus, 5s. W., Medical Hall, Gooch-street, Birmingham.

Money offers for 1 gallon Tincture Press (Maw's), nearly new, only once in use. Cost 42s. Address, H. Rayner, 12, Russell-street, Hull.

"Muspratt's Chemistry," complete in sixty-three parts, quite new. Cost £3 3s. Offers wanted. Chemicus, High-st. Bradford.

Sheep Dipping Machine on wheels, complete, with shafts, crane, and two sets of cradles, for sheep and lambs. Capital condition. Offers wanted. Baker, Swaffham.

Dozen 2s., 2 dozen 1s. Lerout & Co.'s Parisian Gold Reviver, for "Attfield's Chemistry," or good Microscope. J. W. T., Bull Ring, Sedgley, Dudley.

Three dozen Agnew's Cod Liver Jelly (unpacked), 2s. size, half price; or exchange for labelled Shop Rounds. Cheverton, Tunbridge.

Soda Water Fountain, Oak Pillar, Plated Tap, Marble Slab, 2 ft. by 1¾ ft., 40 ft. of pipe with connections. Price, 35s. R. H., 9, Albion-place, London, W.

Jalapine, Sundries, Gold Ring, Photographic Box, Frame's (Printing) Tincture Press, Funnels, Pestles and Mortars, Carrington, Wincanton.

Books required to pass the Preliminary Examination, good condition; 7s. the lot, cost 14s. J. Cross, 1, King-street, Dover.

One 3-pint Tincture Press, never been used, 13s. 6d. A set of ten Scaling and Stopping Instruments, with ivory handles, as good as new, only file slightly worn. Parrington, Batley.

Two sets of beautifully finished Tooth-scaling Instruments, in case complete; one mounted with ivory handles, 8s. 6d.; bone handles, 6s.; never been used. R. Halford, New John-street West, Birmingham.

Volumetric Apparatus, B.P., cost 15s., price 8s., Attfield's, good condition, 9s.; Lindley's School Botany, good condition, 3s. 6d. Pharmacist, 11, Jonson's-place, Harrow-road, W.

A Southall Son and Dymond's Cabinet Materia Medica, cost when new, 30s., complete. ¾ oz. Morphia and 3¾ oz. Hyd. Biniodide. Price of the lot, 30s. George Walker, 43, Silver-street, Salisbury.

"Pharmaceutical Journal," half vol. xvii., vol. xviii., old style; vols. i., ii., iii., iv., v., vi.; half vol. vii., new style, complete, unbound. Offers wanted. Pullen, Warwick-street, Leamington.

Eight 2s. Bottles Foxe's Palatable Codliver Oil; Two 2s. 6d. Bottles Foxe's Codliver Oil, with Quinine; Six 1s. Bottles Foxe's Castor Oil; all in perfect condition, to be sold to any reasonable offer. R. Crozier, Lytham.

Gabriel's Sedadent, 8s. 6d. doz.; Coralite Tooth Paste, Dentifrice, and Gutta-percha Enamel, 9s.; Osteo Enamel, and Odontalgique, 27s., all new; Specie Jar. 27 inches high; two Carboys, 8-gall. 10/19.

Price £10. One of Dow and Clark's American 4-Syrup Soda Water Machines, in perfect order, nearly new. Original price £15. Apply Thos. Taylor, 81, High-street, Peckham.

For Disposal, Mahogany and Plate-glass Counter Case (sloping), 3-feet 6 long, 22-inches wide, 4-feet high front; back, 7-inches. Lescher's "Elements;" "Owen's Conspectus; Maw's Medicated Bougie Mould. Offers wanted. Address, Campkin, Cambridge.

Gallon Tincture Press, double case, powerful screw; Mortar and Pestle, for outside sign; Cupping Case; Tooth Instruments; Concentrated Infusions Gentian, Columba Cascarilla, fresh made and full strength, the half-pound package free. Exchange taken. 11/19.

Pepys Gasholder; Mahogany Sponge Case with Curved Top; Set of Gramme Weights to 1-100 grammes; Faraday's "Manipulations;" Bloxam's "Laboratory Teachings;" Morfit's "Chemistry;" Small Platinum Dish. Apply No. 21/40.

The first 11 volumes of "Pharmaceutical Journal," bound; clean and in excellent condition, 2s. 6d. each. Also about 5,000 prepared Fly Papers. Name, Tebbutt, Manchester. 9s. per 1,000. Over 1*l.* worth carriage paid. Kendle, Chemist, Elvet, Durham.

Gabriel's Coralite Tooth Paste, Royal Dentifrice, White Gutta Percha Enamel, Osteo Enamel Stopping, and Odontalgique Elixir, at half retail prices, carriage paid. Cash with order. For £5 lots 5 per cent. discount. Apply, Glasgow Apothecaries' Company, Glasgow.

Upright Mahogany Glass Case, 23 in. by 26 in., four moveable plate glass shelves, desk behind, 25s. Flat Mahogany Glass Case for counter, 20 in. by 22 in., four compartments for cigars in front, 15s. Write for particulars. Bradley, Porter-street, Hull.

Twelve ounces Cantharides; three Daurell's Embrocation, 1s. 1½d.; three Coupelle's Eau de Paradis, 2s. 9d.; one ditto, 4s. 6d.; three Ross's Chiropo, 4s.; seven pounds Potass Iodide. For Volumetric Estimation: one Flask; one Burette; one Graduated Cylindrical Jar. Apply 9, Church-gate, Loughborough.

Soda-water Machine, Tylor and Co., No. 4, with oak Cask, Copper Bell, Lead Generator and Fittings, Copper Solution Pan, Acid Tank and Piping; One-horse Steam Engine, Boiler, Fittings, Feed-pump and Iron Cistern, in good working condition. Offers wanted. Apply, with trade card, to Orledge, Chemist, Frome.

A large stock of Drugs, Chemicals, Patents, Sundries; 2 handsome Specie Jars, labelled, mahogany stands; one 3-gallon Carboy; one-dozen Pill Machine; Case of Operating Instruments; Shop Bottles; Citrate of Magnesia Bottles, boxwood and glass caps; Pomade, various bottles. Stamp for list. Rayner, 309, New North-road, Islington, London.

An Outside Mortar, gilded, solid wood; Two-Flask Vulcanizer, with Flasks and Thermometer; Kelly's "Directory of Northumberland and Durham," new. For exchange:—Richardson's "Mechanical Dentistry," last edition, 1865 or 1867; a Powerful Magnifying Glass; and a Galvanic Battery, all in good condition. Patents not objected to. The exchange to be equal to 3*l.* 5s. in cash. 2/19.

Grove's Gas Furnace, in use a few months. 17s. Beasley's Formulary, 8th edition, 3s. Beasley's Book of Prescriptions, 3rd edition, 3s. Farre's edition of Pereira, in 1 vol., 5s. Squire's Companion, 5th edition, 3s. Stockhardt's Chemistry, 5th edition, 3s. Wittstein's Practical Pharmaceutical Chemistry, 5th edition, 2s. 6d. Thompson's Dispensatory, 5s. Address P. H., Post-office, Douglas, Isle of Man.

A large quantity of Chloroform, both Pure and Methylated, in 1 lb. bottles only, all sealed and branded with the name "Duncan and Flockhart, Edinburgh," to be sold in quantities of not less than 1 dozen 1 lb. bottles Methylated at 3s. 8d. per lb., or six 1 lb. bottles Pure, at 6s. 8d. per lb., bottles charged 4d. each extra. Carriage paid, remittances to accompany each order. Post-office Orders to be made payable to Twemlow, Chemist, Upper Brook-street, Manchester.

Five Sets of Clendon's Best Box-jointed Forceps, in Morocco Pouch, containing eleven (new). Cash price, 45s.; carriage paid. One Set Single-jointed, in Morocco Pouch, containing eight. Price, 22s. 6d. Scaling and Stopping Instruments, gilt handles, 8s. per doz. One Halse's Galvanic Machine, complete, in Mahogany Box, twelve cells; cost ten guineas; carriage free for £5. 5s. One of Barth's Patent Nitrous Oxide Apparatus; cost six guineas; lowest price Three Guineas; quite new; will hold 50 gallons. An Excellent Lathe, suitable for a Dentist, will be sold cheap. Muspratt's "Chemistry," complete, unbound. What Offer? "Materia Medica," 2s. 6d. Three Vols. Webster's "Dictionary;" cost 7s. 6d. vol.; the lot for 10s. One lb. Pulv. Opii. Turk. Opt., 30s. Two Gallons Aniline Dye. What Offers in Exchange? One 80-gallon Dome-top Cistern, suitable for Spirits; lowest price 30s.; cost 50s. Address, J. G., 14, Netherthorpe-street, Sheffield.

WANTED.

Counter Drawers. Full particulars; lowest price. 6/8.

An Oertling's Balance for Chemical Analysis. 6/19.

Chemists and Druggists Stocks, Bottles, &c., in any quantity for cash. 36/17.

A Strong Iron Tincture Press; contents, two to five gallons. Send particulars to 20, Cross-lane, Salford.

Royle's Materia Medica; in good condition. Particulars to Case, 93, Southgate-street, Gloucester.

Quart Tincture Press. State price and condition. H. Rayner, 12, Russell-street, Hull.

The last edition (Latin) of the "London Pharmacopœia." State price. 27/18.

Stoppered Shop Bottles, Pots, etc.: also, some Medical Books, Acid Drop Machine, and Drum Sieve. 31/18.

Four Oil Cisterns, holding 100 to 150 gallons. State diameter round. 9/19.

Show Bottles with gold labels, for top shelf in shop. Opaque glass. 17/19.

Thomas on "Nitrous Oxide;" Tome's "Dental Surgery;" Electric Bell, No. 36 Coil, or one with Clockwork. Bayley, Saltaire.

Mortar for Outside without Fittings; Soda Water Stand for Shop, good condition, description, and price. Briggs, Chemist, Goole.

Iron Cistern (for Paraffin), 100 to 150 gallons. Marble top Soda Water Stand. Particulars and price to William March, New Brompton, Kent.

Large Glass Oblong Aquarium, and Garden Hose, in good condition. State size and price. Girdler, Merton, Surrey.

Wanted, a specimen of each of the following, Belladonna, Hyoscyamus, Stramonium, and Sabine. T. F. Walker, Mr. Durrant's, Hertford.

Last edition "London Pharmacopœia (Latin). State price and condition. W. Warburton, 10, Linthorpe-road, Middlesborough-on-Tees.

Squire's "Companion," Bentley's "Botany," Attfield's "Chemistry," latest editions. J. Cross, 1, King-street, Dover.

Original Physicians' and Surgeons' prescriptions of a lengthy and intricate character; and preferred if written on one side of the paper only. State price for three, six, or twelve. 16/19.

Flat, bent, Plate-glass Case (mahogany). Will give in exchange cash, Iron Mortars (large), Bird Organ, eight tunes; Musical Box, twelve tunes; Printing Press and Type: Old Violin; Glass Cases of Goulding's Plant Food; or offers wanted for either. A. W. Smith, Rye, Sussex.

TRADE REPORT.

IT is important to bring under the notice of traders the new Trade Marks Registration Bill introduced by Government, the purpose of which is to establish an official register which shall be proof positive of ownership, and shall almost ertainly guarantee the registrar from fraudulent imitations f his exclusive mark. There is no doubt that, to a certain xtent, the courts of law have failed to give perfect justice. There has been an honest attempt to ensure equity, but the difficulty has been to draw the line exactly between actually raudulent and merely accidental similarities in trade marks. If this bill pass, it will be the duty of the registrar to judge of the admissibility of a new trade mark. If he accept it, the registror will have to pay five pounds down and a pound a-year as long as he wishes to retain the exclusive right in it. The fees we have named are the maximum allowed by the bill. It would seem that registration of a trade mark is quite at the option of manufacturers themselves, but if so we fail to see how the present legal rights of those who do not choose to egister at all will be protected in future. For example, to go outside the trade, it is quite clear that, at the present moment, the trade mark of Messrs. Allsopp would be protected by law. The question is whether, in the event of this bill becoming law, that firm would have to invest the five pounds and the annual pound, so as to ensure a continuance of what are at present their legal rights. If not, why register? Then, again, it would appear that, in registering a trade mark, it would be necessary to register also the particular kind of merchandize for which it is to be employed. It seems that a reduction is allowed on taking a quantity; or, in other words, if the trade mark is to be used for more than one purpose. But still this regulation would act very harshly towards a manufacturer who uses one trade mark for a number of articles. Take for instance, any of the "Sundry" houses. Is it possible that they would be expected to pay five pounds for one, and a further sum for the privilege of using their trade mark on each of the different articles of their manufacture? These are practical points, which are worth consideration; for if the Act be not made workable it will only, in a short time, like so many others, cumber the statute-book, and hinder rather than aid the possibility of ready justice.

The export trade in chemicals has certainly not realized the sanguine anticipations which manufacturers and dealers indulged in so lavishly. During the first two months of the year business proceeded merrily, but the last month from which so much was expected, inasmuch as it is the period at which the largest shipping orders are looked for, proved unaccountably dull, so much so that, although the exports to the end of February showed a considerable increase of value over the same period in 1872, the net result of the four months indicates a falling off of more than £10,000 worth, in comparison with last year; advanced prices of most products, too, makes the reduction of quantity exported, as indicated by that figure, proportionately more serious. Manufacturers, however, still have, or profess to have, an unlimited faith in the coming summer demand, and they reduce their prices very reluctantly. The result of this dulness, however, is manifesting itself in the lower prices of many products, and it will doubtless occasion a clearing off of stocks accumulated by speculators.

Our anticipations as to the policy of the iodine ring, have been most perfectly realized. Step by step they are moving upwards to the figure which they arrived at last year, and which doubtless recalls pleasant reminiscences to most o them. The quotations now stand at 1s. 7d., and so undesirous are these gentlemen for customers that a large buyer might think himself fortunate if accommodated with a stock at even 1s. 8d.

The price of mercurials has advanced considerably since our last, and notwithstanding large importations of quicksilver, the price of the metal is firmer in the market.

Citric and tartaric acids are both lower, and even at present quotations sellers are more willing than buyers. In private transactions prices a shade lower than those quoted have been accepted recently.

Oxalic acid, sulphate of ammonia, bleaching powder, saltpetre, and notably, soda ash and crystals have all caught the languishing tendency. Pot and pearl ashes, though still much below last year's price, have slightly recovered since April. Respecting chlorate of potash, which now stands at 1s. 6d., we hear that during the past week some large contracts for abroad were accepted at 1s. 3d., to be delivered in the early part of 1874. In commercial transactions such a future is unusually remote.

If we add that quinine is just now very strong, especially British manufactured, we may conclude our survey of the chemical market.

The importation of Drugs has been rather large of late, but notwithstanding this circumstance, there has been a demand for most of the prominent staples sufficient to turn quotations in many instances in favour of sellers. Jalap is dearer. Barks, too, are higher and very firm, in sympathy with the Quinine advance. Opium maintains its price, and Castor Oil has made a point forward. Messrs. Geo. W. Fox and Co., of Manchester, have been good enough to send us some reports from the Norwegian cod fisheries, from which it would appear that the takings during the season just terminated have been below the average in consequence of long continued stormy weather, so that the price of the oil may be expected to rise. Gums have arrived somewhat abundantly, and, particularly in Arabics and Assafœtida, lower quotations are noticeable. There has been some good business done in Shellacs, which are now quoted higher.

At the last Cochineal auctions on the 30th ult. a total of 1,132 bags was offered, but buyers were not anxious, and would only come to terms at an advantage over standing prices. Sellers were almost equally resolute the other way, so that 324 bags only were parted with. Nominally prices have fallen 1d.

A somewhat similar report may be given of the Central American Indigo sales. Sales only effected where holders were willing to make concessions. From 3d. to 6d. was the ruling reduction.

There is still but a very slight demand for Olive Oil, and the tempting prices that have been quoted for several months past are still open. We learn from Messina, under date of May 1, that taking into account the variation of exchange, prices are a shade lower there, but our informant adds that an export demand, which cannot be long delayed, would at once send quotations upward. This is not quite a disinterested opinion, but we believe it to be good advice to recommend chemists to buy their stocks. Since the date we have quoted there has been an unquestionably firmer tone on the London market.

Turpentine (French and American) is unusually low just now, and Petroleum still continues its downward career.

The remaining features of the oil trade are firmness in Linseed, and an advance in Rape.

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing-lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.

	1873.					1872.				
	s.	d.		s.	d.	s.	d.		s.	d.
ACIDS—										
Acetic ....per lb.	0	4½	to	0	0	0	4½	to	0	0
Citric .... ,,	4	6	..	0	0	3	8	..	0	0
Hydrochlor. ....per cwt	4	0	..	7	0	4	0	..	7	0
Nitric ....per lb.	0	5	..	0	5½	0	5	..	0	5½
Oxalic .... ,,	0	9	..	0	9½	1	1½	..	1	2
Sulphuric ...... ,,	0	0¾	..	0	1½	0	0¾	..	0	1
Tartaric crystal .. ,,	1	6½	..	1	7	1	7	..	1	7½
powdered ,,	1	7	..	1	7½	1	7½	..	0	0
Antimony ore......per ton	240	0	..	260	0	270	0	..	290	0
crude ..per cwt	40	0	..	42	0	40	0	..	0	0
regulus.. ,,	0	0	..	0	0	76	0	..	79	0
star .... ,,	60	0	..	61	0	75	0	..	80	0
Arsenic, lump...... ,,	20	6	..	0	0	18	6	..	0	0
powder.... ,,	11	0	..	11	6	7	6	..	0	0
Brimstone, rough ..per ton	125	0	..	145	0	145	0	..	150	0
roll ....per cwt	10	0	..	0	0	10	0	..	0	0
flour.... ,,	11	6	..	12	6	12	0	..	12	6
Iodine, dry ....per oz.	1	7	..	0	0	1	11	..	2	1
Ivory Black, dry..per cwt.	8	6	..	0	0	8	6	..	0	0
Magnesia, calcined..per lb.	1	6	..	0	0	1	2	..	1	3
Mercury......... per bottle	275	0	..	280	0	210	0	..	0	0
Minium, red ......per cwt.	25	0	..	0	0	21	8	..	21	6
orange .... ,,	35	6	..	0	0	31	6	..	32	0
Precipitate, red ....per lb.	4	7	..	0	0	3	7	..	0	0
white .. ,,	4	6	..	0	0	3	5	..	0	0
Prussian Blue ...... ,,	0	0	..	0	0	0	0	..	0	0
SALTS—										
Alum ....per ton	165	0	..	0	0	160	0	..	170	0
powder .... ,,	135	0	..	0	0	130	0	..	0	0
Ammonia:										
Carbonate ......per lb.	0	7½	..	0	7¾	0	7	..	0	7¼
Hydrochlorate, crude, white........ per ton	640	0	..	0	0	620	0	..	630	0
British (*see* Sal Ammoniac)										
Sulphate ......per ton	345	0	..	370	0	450	0	..	460	0
Argol, Cape ......per cwt	70	0	..	95	0	72	6	..	90	0
France .... ,,	65	0	..	70	0	63	0	..	70	0
Oporto, red ,,	32	0	..	32	6	40	0	..	0	0
Sicily .... ,,	60	0	..	70	0	60	0	..	75	0
Ashes (*see* Potash and Soda)										
Bleaching powd..per cwt.	12	6	..	12	9	17	0	..	0	0
Borax, crude .... ,,	50	0	..	95	0	60	0	..	75	0
British refnd. ,,	105	0	..	0	0	98	0	..	0	0
Calomel ....per lb.	4	2	..	0	0	3	4	..	0	0
Copper:										
Sulphate ......per cwt.	32	0	..	0	0	29	0	..	34	0
Copperas, green ..per ton	60	0	..	62	6	60	0	..	62	6
Corrosive Sublimate..p.lb.	3	0	..	0	0	2	9	..	0	0
Cr. Tartar, French, p. cwt.	107	6	..	0	0	110	0	..	112	6
brown ,,	90	0	..	97	6	97	6	..	100	0
Epsom Salts ....per cwt.	5	9	..	6	3	5	9	..	6	3
Glauber Salts .... ,,	5	6	..	6	6	4	6	..	6	0
Lime:										
Acetate, white, per cwt.	16	6	..	22	0	14	0	..	23	0
Magnesia: Carbonate ,,	42	6	..	45	0	42	6	..	45	0
Potash:										
Bichromate ....per lb.	0	8½	..	0	0	0	8	..	0	0
Carbonate:										
Potashes, Canada, 1st sort ......per cwt.	38	0	..	38	6	41	0	..	0	0
Pearlashes, Canada, 1st sort ......per cwt.	51	0	..	0	0	56	0	..	0	0
Chlorate ....per lb.	1	6	..	0	0	1	9½	..	0	0
Prussiate ...... ,,	1	5	..	0	0	1	7	..	0	0
red .... ,,	3	1	..	0	0	3	2	..	0	0
Tartrate (*see* Argol and Cream of Tartar)										
Potassium:										
Chloride ......per cwt.	8	6	..	0	0	9	9	..	10	0
Iodide.......... per lb.	25	6	..	0	0	35	0	..	0	0
Quinine:										
Sulphate, British, in bottles ...... per oz.	8	0	..	0	0	7	9	..	0	0
Sulphate, French ,,	7	0	..	7	10	7	6	..	7	7
Sal Acetos ....per lb.	1	1½	..	0	0	1	4½	..	0	0
Sal Ammoniac, Brit. cwt.	43	0	..	40	0	43	0	..	49	0
Saltpetre:										
Bengal, 6 per cent or under ......per cwt.	27	9	..	29	0	20	6	..	30	3
Bengal, over 6 per cent. per cwt.	27	0	..	27	6	28	0	..	29	3
British, refined ,,	31	6	..	32	6	33	0	..	34	0
Soda: Bicarbonate, p.cwt.	19	0	..	0	0	17	6	..	0	0
Carbonate:										
Soda Ash....per deg.	0	3	..	0	0	0	3	..	0	3½
Soda Crystals per ton	127	6	..	130	0	137	6	..	0	0
Hyposulphite..per cwt	15	0	..	16	0	16	0	..	17	0
Nitrate ......per cwt.	15	0	..	15	6	16	0	..	10	6
Sugar of Lead, White, cwt.	45	6	..	0	0	44	0	..	44	0
Sugar of Lead, Brown, cwt.	30	0	to	0	0	31	0	to	0	0
Sulphur (*see* Brimstone)										
Verdigris .... per lb.	1	1½	..	1	2	1	1	..	1	3
Vermilion, English.. ,,	4	2	..	4	4	3	6	..	3	8
China.... ,,	4	0	..	4	1	3	9	..	4	0

DRUGS.

	1873.					1872.				
	s.	d.		s.	d.	s.	d.		s.	d.
Aloes, Hepatic....per cwt.	80	0	..	230	0	100	0	..	240	0
Socotrine .. ,,	100	0	..	320	0	160	0	..	400	0
Cape, good.. ,,	30	0	..	32	0	31	0	..	34	0
Inferior ,,	20	0	..	29	0	25	0	..	30	0
Barbadoes ,,	70	0	..	190	0	75	0	..	210	0
Ambergris, grey........ oz.	27	0	..	30	0	25	0	..	29	0
BALSAM —										
Canada .... per lb.	3	0	..	0	0	1	0	..	0	0
Capivi .... ,,	2	8	..	2	10	2	3	..	0	0
Peru .... ,,	9	3	..	0	0	9	4	..	0	0
Tolu ... . ,,	1	11	..	2	0	1	9	..	1	11
BARKS—										
Canella alba ....per cwt.	15	0	..	25	0	15	0	..	25	0
Cascarilla........ ,,	26	0	..	35	0	22	0	..	37	0
Peru, crown & grey per lb.	1	0	..	2	0	1	6	..	3	1
Calisaya, flat ,,	3	0	..	3	0	3	2	..	3	4
quill	3	3	..	3	0	3	2	..	3	4
Carthagena ,,	0	10	..	1	9	0	10	..	2	0
Pitayo .... ,,	0	10	..	1	9	0	10	..	1	10
Red .... ,,	1	10	..	0	0	1	10	..	6	0
Bucha Leaves ...... ,,	0	2	..	1	0	0	4	..	1	4
Camphor, China.. per cwt.	81	0	..	0	0	90	0	..	0	0
Japan ,,	85	0	..	0	0	90	0	..	0	0
Refin Eng. per lb.	1	2½	..	0	0	1	4	..	0	0
Cantharides ...... ,,	6	3	..	0	6	7	0	..	7	3
Chamomile Flowers p. cwt	40	0	..	80	0	45	0	..	70	0
Castoreum .... per lb.	6	0	..	20	0	3	0	..	30	0
Dragon's Blood, lp. p. cwt.	102	6	..	240	0	100	0	..	220	0
FRUITS AND SEEDS (*see also* Seeds *and* Spices)										
Anise, China Star pr cwt.	120	0	..	127	0	130	0	..	140	0
Spanish, &c. ,,	17	0	..	42	0	35	0	..	40	0
Beans, Tonquin .. per lb.	2	0	..	3	0	1	0	..	1	8
Cardamoms, Malabar good ,,	5	0	..	6	0	7	0	..	7	9
inferior ,,	3	6	..	4	9	6	0	..	6	0
Madras ,,	2	0	..	4	9	2	6	..	7	6
Ceylon ,,	4	9	..	5	0	4	0	..	4	3
Cassia Fistula.. per cwt.	10	0	..	20	0	12	0	..	30	0
Castor Seeds .. ,,	5	0	..	10	0	10	0	..	12	0
Cocculus indicus ,,	12	0	..	14	0	18	0	..	20	0
Colocynth, apple.. per lb.	0	3	..	0	6	0	3	..	0	6
Croton Seeds .. per cwt.	55	0	..	0	0	54	0	..	58	0
Cubebs .... ,,	23	0	..	24	0	25	0	..	27	0
Cummin........ ,,	24	0	..	26	0	50	0	..	56	0
Dividivi .... ,,	12	0	..	15	0	16	6	..	17	0
Fenugreek...... ,,	9	0	..	10	0	12	0	..	22	0
Guinea Grains .. ,,	24	0	..	25	0	48	0	..	50	0
Juniper Berries ,,	16	6	..	17	0	11	0	..	12	6
Myrobalans .... ,,	9	0	..	14	0	12	0	..	17	6
Nux Vomica.... ,,	10	0	..	12	6	10	6	..	13	6
Tamarinds, East India ,,	5	0	..	20	0	2	0	..	14	0
West India, new ,,	21	0	..	33	0	20	0	..	42	0
Vanilla, large .... per lb.	60	0	..	75	0	41	0	..	55	0
inferior ,,	30	0	..	58	0	23	0	..	39	0
Wormseed per cwt.	0	6	..	0	0	0	0	..	0	0
Ginger, Preserved, in bond (duty 1d. per lb.) per lb.	0	6	..	0	9½	0	6½	..	0	10½
Gums (*see separate list*)										
Honey, Chili .... per cwt.	29	0	..	42	0	45	0	..	56	0
Cuba .... ,,	0	0	..	0	0	35	0	..	50	0
Jamaica.. ,,	38	0	..	44	0	40	0	..	56	0
Australian ,,	20	0	..	40	6	30	0	..	45	0
Ipecacuanha .... per lb.	3	5	..	3	7	5	6	..	5	8
Isinglass, Brazil.. ,,	2	10	..	4	4	2	5	..	4	6
Tongue sort ,,	3	2	..	5	0	3	2	..	5	2
East India ,,	1	4	..	4	4	1	4	..	4	1
West India ,,	4	2	..	4	5	3	8	..	4	3
Russ. long staple	8	0	..	12	6	6	0	..	9	6
,, leaf ,,	3	6	..	7	6	3	6	..	6	6
,, Simovia	2	0	..	4	6	2	0	..	3	6
Jalap, good ...... ,,	1	8	..	2	4	1	6	..	2	8
infer. & stems ,,	1	2	..	1	0	0	6	..	1	5
Lemon Juice ... per degree	0	2¾	..	0	0	0	1	..	0	2
Liquorice, Spanish per cwt.	0	0	..	0	0	35	0	..	37	0
Italian ,,	0	0	..	0	0	40	0	..	60	0
Liquorice Root ,,	10	0	..	16	0	0	0	..	0	0
Manna, flaky .... per lb.	3	0	..	3	3	3	3	..	3	6
small...... ,,	1	6	..	0	0	1	10	..	2	0
Musk, Pod .... per oz.	19	0	..	40	0	20	0	..	48	0
Grain ...... ,,	55	0	..	58	0	0	0	..	0	0
OILS (*see also separate List*)										
Almond, expressed per lb.	1	0	..	0	0	1	1	..	0	0
Castor, 1st pale .... ,,	0	6	..	0	0	0	5½	..	0	5¾
second .... ,,	0	5½	..	0	0	0	3	..	0	4½
infer. & dark ,,	0	4¾	..	0	0	0	4½	..	0	4¾
Bombay (in casks)	0	4¾	..	0	0	0	4¼	..	0	4½
Cod Liver ......per gall.	4	0	..	5	6	4	6	..	5	0
Croton............per oz.	0	3	..	0	4	0	3½	..	0	4½
Essential Oils:										
Almond ....per lb.	30	0	..	0	0	35	0	..	0	0
Anise-seed ...... ,,	9	3	..	0	0	11	3	..	0	0
Bay ....per cwt.	0	0	..	0	0	65	0	..	70	0
Bergamot ......per lb.	9	0	..	10	0	8	0	..	16	0
Cajeput, (in bond) per oz.	0	0	..	0	0	0	1½	..	0	3
Caraway ....per lb.	5	6	..	0	3	5	6	..	6	3
Cassia .... ,,	6	0	..	0	0	0	0	..	0	0
Cinnamon ......per oz.	0	9	..	3	6	0	10	..	6	6
Cinnamon-leaf.. ,,	0	3	..	0	3¾	0	4	..	0	6
Citronelle ...... ,,	0	2¼	..	0	0	0	2¼	..	0	0

	1873.					1872.				
Essential Oils, *continued*:—	s.	d.		s.	d.	s.	d.		s.	d.
Clove per lb.	5	6	to	0	0	3	3	to	3	6
Juniper ,,	1	9	..	2	0	1	3	..	2	4
Lavender ,,	2	6	..	5	6	3	6	..	6	0
Lemon ,,	12	0	..	14	6	5	0	..	15	0
Lemongrass per oz.	0	3¼	..	0	3½	0	5	..	0	0
Neroli ,,	0	5	..	0	6	0	5	..	0	6
Nutmeg ,,	0	7½	..	0	8½	0	4	..	0	7½
Orange per lb.	7	0	..	9	0	7	0	..	8	0
Otto of Roses per oz.	18	0	..	25	0	12	0	..	21	0
Patchouli ,,	3	9	..	4	0	4	0	..	4	8
Peppermint:										
American per lb.	14	6	..	15	3	13	0	..	14	6
English ,,	26	0	..	28	0	30	0	..	33	0
Rosemary ,,	1	11	..	0	0	1	9	..	2	0
Sassafras ,,	8	0	..	3	8	3	0	..	3	6
Spearmint ,,	6	0	..	20	0	4	0	..	16	0
Thyme ,,	1	10	..	1	11	1	10	..	2	0
Mace, expressed .. per oz.	0	2	..	0	3	0	1½	..	0	8
Opium, Turkey per lb.	24	0	..	27	0	19	0	..	20	0
inferior ,,	12	0	..	20	0	12	0	..	19	0
Quassia (bitter wood) per ton	85	0	..	90	0	80	0	..	85	0
Rhubarb, China, good and fine per lb.	2	9	..	6	0	2	3	..	6	0
Good, mid. to ord. ,,	0	10	..	2	6	0	5	..	2	0
Dutch trimmed ,,	8	0	..	10	0	9	0	..	9	6
Russian ,,	0	0	..	0	0	0	0	..	0	0
ROOTS—Calumba..per cwt.	15	0	..	25	0	25	0	..	40	0
China ,,	20	0	..	27	0	23	0	..	0	0
Galangal ,,	13	0	..	22	0	16	0	..	19	0
Gentian ,,	18	0	..	0	0	20	0	..	22	0
Hellebore ,,	30	0	..	32	0	30	0	..	32	0
Orris ,,	36	0	..	80	0	65	0	..	75	0
Pellitory ,,	38	0	..	39	0	60	0	..	63	0
Pink per lb.	0	10	..	1	0	0	9	..	1	3
Rhatany ,,	0	6	..	1	2	0	4	..	0	11
Seneka ,,	4	9	..	5	0	5	0	..	5	2
Snake ,,	1	2	..	1	8	1	1	..	1	2
Saffron, Spanish .. ,,	22	0	..	28	0	27	0	..	38	6
Salep per cwt.	170	0	..	180	0	170	0	..	200	0
Sarsaparilla, Lima per lb.	0	6	..	0	7	0	8	..	0	11
Para ,,	1	3	..	0	0	1	0	..	1	3
Honduras ,,	1	1	..	1	8	1	2	..	1	8
Jamaica ,,	2	2	..	2	6	1	7	..	2	11
Sassafras per cwt.	0	0	..	0	0	0	0	..	0	0
Scammony, Virgin ..per lb.	26	0	..	31	0	26	0	..	32	0
second & ordinary ,,	14	0	..	25	0	10	0	..	25	0
Senna, Bombay ,,	0	2	..	0	5	0	4	..	0	5
Tinnivelly ,,	0	1¾	..	0	10	0	2½	..	1	4
Alexandria ,,	0	2½	..	1	0	0	3¼	..	1	7
Spermaceti, refined.. ,,	1	6	..	0	0	1	6	..	0	0
American ,,	1	2	..	1	3	1	2	..	1	3
Squills ,,	0	1	..	0	2	0	1	..	0	2
UMS.										
Ammoniaci drop ..per cwt.	85	0	..	130	0	120	0	..	197	6
lump .. ,,	60	0	..	80	0	60	0	..	100	0
Animi, fine washed ,,	250	0	..	320	0	300	0	..	340	0
bold scraped ,,	210	0	..	240	0	230	0	..	290	0
sorts ,,	130	0	..	230	0	160	0	..	260	0
dark ,,	30	0	..	120	0	100	0	..	150	0
Arabic, E. I., fine pale picked .. ,,	75	0	..	78	0	75	0	..	84	0
srts, gd. to fin ,,	50	0	.	69	0	60	0	..	74	0
garblings.. ,,	20	0	..	45	0	25	0	..	50	0
Turkey, pick. gd to fin. ,,	160	0	..	230	0	160	0	..	200	0
second & inf. ,,	85	0	..	150	0	85	0	..	150	0
in sorts .. ,,	0	0	..	0	0	65	0	..	80	0
Gedda ,,	25	0	..	42	0	30	0	..	42	0
Barbary, white .. ,,	50	0	..	57	0	0	0	..	0	0
brown .. ,,	37	0	..	42	0	39	0	..	44	0
Australian ,,	27	0	..	45	0	30	0	..	46	0
Assafœtida, com. to gd ,,	30	0	..	90	0	35	0	..	122	6
Benjamin, 1st qual. ,,	160	0	..	400	0	180	0	..	500	0
2nd ,, ,,	140	0	..	210	0	150	0	..	210	0
3rd ,, ,,	60	0	..	30	0	65	0	..	85	0
Copal, Angola red ,,	130	0	..	140	0	130	0	..	137	6
Benguela .. ,,	110	0	..	115	0	110	0	..	115	0
Sierra Leone..per lb.	0	3	..	0	8½	0	3½	..	0	11
Manilla ....per cwt.	13	0	..	30	0	20	0	..	37	6
Dammar, pale ,,	48	0	..	50	0	55	0	..	58	6
Euphorbium ,,	12	0	..	15	0	15	0	..	17	0
Galbanum per lb.	1	6	..	2	0	0	0	..	0	0
Gamboge, pckd. pipe per cwt.	250	0	..	285	0	300	0	..	340	0
Guaiacum per lb.	0	8	..	2	6	0	9	..	2	10
Kino per cwt.	50	0	..	85	0	60	0	..	90	0
Kowrie, rough ,,	18	0	..	25	0	0	0	..	0	0
scraped .. ,,	28	0	..	37	0	0	0	..	0	0
Mastic, picked per lb.	6	0	..	7	0	6	0	..	7	3
Myrrh, gd. & fine per cwt.	125	0	..	240	0	125	0	..	200	0
sorts	70	0	..	120	0	85	0	..	120	0
Olibanum, p. sorts	66	0	..	72	0	76	0	..	73	0
amber & ylw.	60	0	..	65	0	70	0	..	80	0
garblings ,,	20	0	..	40	0	22	0	..	43	0
Senegal per cwt.	65	0	..	70	0	70	0	..	80	0
Sandarac ,,	60	0	..	95	0	53	0	..	100	0
Shellac, Orange ,,	137	6	..	197	6	172	6	..	182	6
Liver ,,	177	6	..	185	0	160	0	..	165	0
Thus ,,	30	0	..	36	0	20	0	..	20	6
Tragacanth, leaf.. ,,	270	0	..	440	0	200	0	..	450	0
in sorts ,,	60	0	..	160	0	110	0	..	180	0
OILS.	£	s.		£	s.	£	s.		£	s.
Seal pale per tun	39	0	..	0	0	37	0	..	40	0
yellow to tinged ,,	36	0	..	38	0	35	0	..	36	0
brown ,,	33	0	..	0	0	38	0	..	0	0
Sperm ,,	95	0	..	96	0	98	0	..	100	0
Cod ,,	42	0	..	0	0	33	10	..	34	0
Oils, *continued*:—	£	s.		£	s.	£	s.		£	s.
Whale, South Sea, pale, per tun	39	0	to	0	0	37	0	to	0	0
yellow ,,	37	0	..	38	0	35	0	..	36	0
brown ,,	34	0	..	35	0	31	0	..	33	0
East India, Fish ,,	28	0	..	0	0	28	0	..	0	0
Olive, Galipoli ....per ton	43	0	..	0	0	49	0	..	28	10
Trieste ,,	41	0	..	0	0	48	0	..	48	10
Levant ,,	39	0	..	0	0	46	0	..	0	0
Mogador ,,	83	0	..	0	0	15	0	..	0	0
Spanish ,,	40	0	..	0	0	48	0	..	0	0
Sicily ,,	40	0	..	0	0	48	0	..	0	0
Cocoanut, Cochin ,,	39	0	..	39	0	41	0	..	0	0
Ceylon .. ,,	34	10	..	34	15	36	0	..	0	0
Sydney ,,	28	0	..	34	0	32	0	..	36	10
Ground Nut and Gingelly:										
Bombay	0	0	..	0	0	0	0	..	0	0
Madras	36	0	..	0	0	34	0	..	0	0
Palm, fine	39	0	..	0	0	37	10	..	0	0
Linseed	33	5	..	0	0	32	15	..	33	0
Rapeseed, English, pale ..	39	10	..	0	0	33	0	..	0	0
brown	37	10	..	0	0	36	0	..	0	0
Foreign pale	0	0	..	0	0	39	0	..	0	0
brown	0	0	..	0	0	0	0	..	0	0
Cottonseed	29	10	..	30	0	31	0	..	0	0
Lard	46	10	..	47	10	46	0	..	48	0
Tallow	31	0	..	0	0	36	0	..	0	0
Turpentine, American, cks.	38	0	..	0	0	50	0	..	0	0
French, ,,	39	0	..	89	6	52	0	..	0	0
Petroleum, Crude	0	0	..	0	0	0	0	..	0	0
	s.	d.		s.	d.	s.	d.		s.	d.
refined, per gall.	1	2¾	..	1	3	1	4	..	1	5
Spirit ,,	0	10	..	0	10½	0	11	..	0	0
SEEDS.										
Canary per qr.	46	0	..	50	0	48	0	..	54	0
Caraway, English per cwt.	40	0	..	44	0	0	0	..	0	0
German, &c.	22	0	..	36	0	0	0	..	0	0
Coriander	12	0	..	16	0	0	0	..	0	0
Hemp per qr.	40	0	..	44	0	40	0	..	44	0
Linseed, English per qr.	60	0	..	66	0	0	0	..	0	0
Black Sea & Azof	60	6	..	60	6	61	0	..	62	0
Calcutta ,,	64	0	..	64	6	62	6	..	63	9
Bombay ,,	65	6	..	0	0	64	6	..	0	0
St. Petrsbrg. ,,	60	0	..	61	0	0	0	..	0	0
Mustard, brown..per bshl.	13	0	..	16	0	0	0	..	0	0
white.. ,,	8	0	..	9	0	3	0	..	9	6
Poppy, East India per qr.	61	0	..	61	6	64	0	..	65	0
SPICES.										
Cassia Lionea ....per cwt.	77	0	..	81	0	95	0	..		
Vera ,,	27	0	..	60	0	33	0	..		
Buds ,,	117	6	..	122	6	130	0	..		
Cinnamon, Ceylon, 1st quality ....per lb.	2	3	..	3	8	2	4	..	3	8
2nd do. ,,	1	9	..	3	4	1	9	..	3	5
3rd do. ,,	1	5	..	3	0	1	7	..	2	11
Tellicherry ,,	2	8	..	3	1	2	7	..	3	2
Cloves, Penang ,,	1	0¼	..	1	3	1	1½	..	1	3
Amboyna ,,	0	7½	..	0	11	0	5	..	0	10½
Zanzibar ,,	0	8	..	0	8½	0	4¾	..	0	0
Ginger, Jam., fine per cwt.	110	0	..	200	0	90	0	..	180	0
Ord. to good .. ,,	58	0	..	100	0	49	0	..	87	0
African ,,	50	0	..	0	0	39	0	..	0	0
Bengal ,,	45	0	..	0	0	32	0	..	0	0
Malabar ,,	44	0	..	0	0	0	0	..	0	0
Cochin ,,	55	0	..	120	0	45	0	..	120	0
Pepper, Blk, Malabar, per lb.	0	7½	..	0	0	0	7	..	0	0
Singapore ,,	0	7	..	0	0	0	6½	..	0	7
White, Tellicherry ,,	0	0	..	0	0	0	0	..	0	0
Cayenne ,,	1	0	..	1	6	1	3	..	1	8
Mace, 1st quality ..per lb.	3	7	..	4	0	3	4	..	3	11
2nd and inferior.. ,,	3	1	..	3	6	2	9	..	3	3
Nutmegs, 78 to 60 to lb.	3	0	..	4	2	8	2	..	4	0
90 to 80 ,,	2	10	..	2	11	3	2	..	3	2
132 to 95 ,,	2	3	..	2	9	2	10	..	3	1
Pimenta	0	2½	..	0	3	0	3	..	0	0
VARIOUS PRODUCTS.										
COCHINEAL—										
Honduras, black ..per lb.	2	4	..	3	4	2	6	..	3	6
,, silver .. ,,	2	3	..	2	6	2	5	..	2	8
,, pasty .. ,,	2	0	..	2	2	2	4	..	0	0
Mexican, black ,,	2	5	..	2	8	2	8	..	2	9
,, silver ,,	2	3	..	0	0	2	5	..	2	6
Teneriffe, black	2	3	..	4	6	2	5	..	4	0
,, silver ,,	2	3	..	2	5	2	4	..	2	7
PUMICE STONE ..per ton	120	0	..	150	0	12	0	..	15	0
SOAP, Castile ....per cwt.	33	0	..	34	0	35	0	..	0	0
SPONGE, Turk. fin pkd pr lb.	12	0	..	16	0	12	0	..	16	0
Fair to good .. ,,	4	0	..	11	0	4	0	..	11	0
Ordinary ,,	1	0	..	3	6	1	0	..	3	6
Bahama ..	0	8	..	3	6	0	6	..	2	6
TERRA JAPONICA—										
Gambier .. per cwt.	27	6	..	0	0	22		..	31	6
Free cubes ,,	37	0	..	33	0	23	0	..	25	0
Cutch ,,	21	0	..	23	0	23	6	..	26	0
WOOD, Dye, Bar ..per ton	£3	10	..	£4	0	£3	10	..	£4	0
Brazil, Branch ,,	27	0	..	30	0	25	0	..	48	0
,, Logs ,,	9	0	..	16	0	9	0	..	16	0
Cam ,,	13	0	..	23	0	17	0	..	20	0
Fustic, Cuba ,,	8	5	..	9	10	8	10	..	9	10
Jamaica ,,	6	0	..	6	10	6	1	..	8	0
Logwood, Campeachy ,,	8	5	..	9	0	9	10	..	10	10
Honduras ,,	6	5	..	6	15	0	0	..	0	0
St. Domingo ,,	5	5	..	6	0	0	0	..	0	0
Jamaica ,,	5	2.6	..	5	5	4	5	..	4	0
Lima, first pile ,,	9	0	..	10	10	3	10	..	10	0
Red Sanders ,,	6	0	..	6	10	7	0	..	0	0

NOTES AND QUERIES.

Electron (Manchester).—We should have had pleasure in publishing at least some portion of your communication if you had complied with the necessary rule of giving us (in confidence) your name and address.

E. S. B.—PASTE FOR SODA-WATER LABELS.—We have not been able to turn up the recipe which you say we published "some few years ago," but offer you one which we believe you will find very satisfactory. Four parts by weight of glue are allowed to soften in fifteen parts of cold water for some hours, and then moderately heated till the solution becomes quite clear. Sixty-five parts of boiling water are now added with stirring. In another vessel thirty parts of starch paste are stirred up with twenty parts of cold water, so that a thin milky fluid is obtained without lumps. Into this the boiling glue solution is poured, with constant stirring, and the whole is kept at the boiling temperature. After cooling, ten drops of carbolic acid are added to the paste. This paste is of extraordinary adhesive power, and if preserved in closed bottles to prevent evaporation of the water, will keep good for years.

TO DESTROY BEETLES.—A correspondent sends us the following item of information, which if correct is worth knowing. We do not keep beetles ourselves, or would have tested the accuracy of the announcement:—Spread a few ounces of powdered borax on the floor where beetles frequent. They eat it with so much avidity as to cause immediate death. Borax is not poisonous; may be obtained at all chemists.

Pharmacien.—A crossed post-office order is treated in exactly the same way as a crossed cheque. It can only be cashed through a banking account.

W. F.—The title "Pharmaceutical Chemist" only is the exclusive property of gentlemen who have passed the major examination of the Pharmaceutical Society, but we should judge that the law would deem the assumption of the designation "Pharmaceutic Chemist" a colourable imitation of the original sufficiently dishonest to be prevented. The titles "Pharmacist" and "Pharmaceutist" are open to other chemists and druggists.

Registered.—A chemist's business may be carried on for the benefit of the widow or children by the executors, administrators, or trustees, provided that they employ a fully qualified assistant. But as their office ceases to exist when the estate is wound up, and as they may desire to close their responsibilities as early as possible, it is wise to leave the business in trust to the wife. She can then legally retain possession of the business as long as she pleases.

H. W.—The following is the formula for Easton's Syrup:—

℞ Ferri Sulph., ʒiiss.
Sodæ Phosph., ʒiij.
Quiniæ Sulph., ʒiss. and gr. xlviij.
Strychniæ, gr. xxiv.
Acid. Phosph., Dil. ʒlvj.
Sacch. Alb., ℥lvj.
Aquæ, q.s.

Dissolve the sulphate of iron and phosphate of sodium in separate portions of the water, mix the solutions, collect the precipitate, and wash. Dissolve it and the quinine and strychnine in the phosphoric acid, then mix all together, and add the sugar to form a syrup.

Orban.—If you immerse the gutta-percha in water heated to about 150° F., and then knead it well with the hands, we think you will find it recover its original toughness. If not, it is hopelessly ruined.

W. W. P.—We are not acquainted with the American process to which you refer. Other information on the subject you would find in any good veterinary work, such as Blaine's "Veterinary Art," for instance, or the more recent book of Professor Williams "Veterinary Surgery." Edinburgh: Maclachlan and Stewart.

J. T.—You will find the following a good form for Toilet Vinegar:—

Ess. Bergamot, ♏xx.
,, Ambergris, ʒiv.
,, Vanilla, ♏xxx.
Ol. Neroli, ♏xxx.
Acid Acetic, ♏cxl.
Spirit Vini Rect., ℥v. M.

Oxygen.—1. Hayward Tyler and Co., Whitecross-street, E.C., would probably be able to supply the apparatus you require. 2. Kerosolene is a light petroleum spirit—so called from Keresene, an American term for rock oils. It differs, we believe, only in name from commercial benzoline. You could obtain the india-rubber at any gutta-percha warehouse. 3. The black particles and darkening of colour in the liquid are owing to the decomposition of some of the silver nitrate into oxide by the organic matter present in the water.

Dispenser.—A small quantity of dilute hydrochloric acid added to the hydrocyanic will impede the decomposition. Care, however, must be taken that the hydrochloric acid is not too strong, or the cyanide will be decomposed into ammonium chloride and formic acid.

Sanitas.—To keep an inhabited room in a state of good ventilation for one person, 283 litres (10 cub. ft.) of air should be removed every minute, and replaced by fresh air.

X. Y. Z.—Syrup of phosphate of iron and manganese is prepared as follows:—

℞ Ferri Phosph., gr. lxxij.
Manganes. Phosph., gr. xlviij.
Aquæ, ʒviij.
Acid Phosphoric Dil., ʒviij.
Syrup, ℥x.

Rub the powders with the water, add the acid, and filter into the syrup.

B. P.—The following you will find to be a good formula for liquid glue:—

℞ Distilled Water, 1 quart.
Best Pale Glue, 2 lbs.

Dissolve in a covered vessel by the heat of a water-bath. Cool, and add gradually, nitric acid (sp. gr. 1·335) 7 ozs.; when cold, put into bottles. It is very strong, and does not gelatinise.

Comes.—Horn for combs, etc., is stained to represent tortoiseshell by using solution of terchloride of gold for the red, nitrate of silver for light brown and black, and a paste made of red lead and potash or quicklime for the brown.

Chemicus.—The following lotion is recommended for the removal of freckles:—

℞ Hyd. Perchlor., gr. v.
Acid Hydrochlor., gtt. xxx.
Sacch. Alb., ℥j.
Spt. Vini Rect., ʒij.
Aquæ Rosæ, ℥vij. M.

T. W. S.—For Baking Powder:—

℞ Sodæ Bicarb., ʒxvj.
Pulv. Acid. Tart., ʒxiv.
,, Magnes. Carb., ℥vj.
,, Farinæ, ℥xij.

Put through a sieve.

Hortus.—Solution of bichloride of platinum makes a good indelible ink for writing on zinc or brass labels. A quill pen should be used.

Wigan.—The following is a Waterproof Harness Blacking, which also serves as a polish:—

Mutton Suet, 2 oz.
Bees' Wax, 6 oz.

Melt, and add—

Sugar Candy (in fine powder), 6 oz
Soft Soap, 2 oz.
Lamp Black, 2½ oz.
Indigo (in fine powder), ½ oz.

When thoroughly incorporated, add turpentine ¼ pint, and pour into pots and tins.

Roy.—The method most approved by workers in electro-gilding to obtain the gold from the cyanide solution, is to add sulphuric acid to the solution until no further hydrocyanic acid gas is given off, taking precautions to avoid the poisonous fumes. Allow the mixture to stand, pour off the supernatant liquid, wash the precipitate with hot water, dry it, and mix it with a little potash. This material, fused at a red heat in a crucible, will yield a button of gold.

A. W.—Civet is a perfume obtained from the civet cat, and is a secretion found in a sort of pouch near the anus. Its odour somewhat resembles musk. The London market is chiefly supplied from China and the East Indies. But some quantity, and, we believe, of a high quality, has been sent from Holland, where a few animals have been brought specially for commercial purposes.

NOTICE.—*All queries for answer in this column should reach us not later than the 10th of the month. We cannot undertake to send answers through the post.*